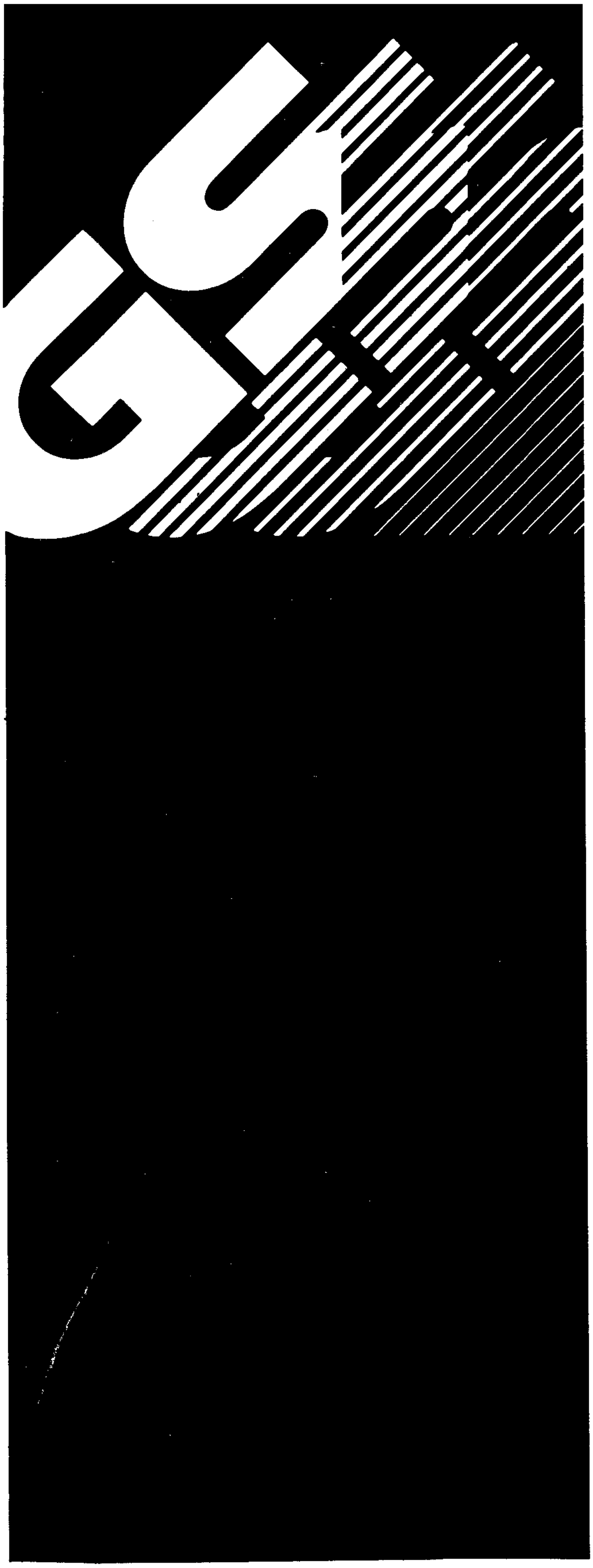


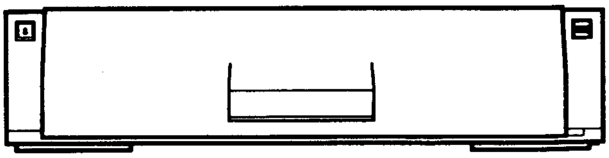
GoldStar

VHS PAL DOUBLE DECK

VIDEO CASSETTE RECORDER

SERVICE MANUAL

CAUTION
BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL



MODEL : R-DD15PQ

GoldStar

TABLE OF CONTENTS

SECTION 1 SUMMARY

- **KEY TO ABBREVIATIONS 1-4**
- **IMPORTANT SAFETY PRECAUTIONS 1-5**
  - Precautions during Servicing 1-5
- **SAFETY CHECK AFTER SERVICING 1-6**
  - Insulation resistance test 1-6
  - Dielectric strength test 1-6
  - Clearance distance 1-6
  - Leakage current test 1-6
- **INTRODUCTION 1-7**
- **FEATURES 1-7**
- **SPECIFICATIONS 1-7**
- **LOCATION OF CUSTOMER CONTROLS 1-8**

SECTION 2 CABINET & MAIN FRAME

- **SERVICE FIXTURE CONNECTING METHOD 2-1**
  - 1. SVC FIXTURE Connecting Method 2-1
  - 2. Electrical Service Fixture List 2-1
- **CABINET DISASSEMBLY 2-2**
  - 1. Top Case 2-2
  - 2. Bottom Cover 2-2
  - 3. Front Panel 2-2
- **CIRCUIT BOARD DISASSEMBLY 2-3**
  - 1. Circuit Board Arrangement 2-3
  - 2. VHS Main Circuit Board 2-3
  - 3. Power 1, 2, 3 Circuit Board 2-3
  - 4. 8mm Main Circuit Board 2-3
  - 5. 8mm/VHS Pre-amp Circuit Board 2-4
  - 6. 8mm/VHS Key Function Circuit Board 2-4
- **EXPLODED VIEWS 2-5**
  - 1. Cabinet & Main Frame Section 2-5
  - 2. Packing Accessory Section 2-7
  - 3. Remote Control Section 2-8

SECTION 3 ELECTRICAL

- **ELECTRICAL ADJUSTMENT PROCEDURES 3-1**
  - Electronic Test Equipment Requirement 3-1
  - 1. VHS Circuit Adjustment 3-1
    - 1-1. Servo Circuit 3-1
      - 1-1-1. PG Adjustment 3-1
    - 1-2. Y/C Circuit 3-1
      - 1-2-1. EE Level Adjustment 3-1
      - 1-2-2. Playback Luminance Level Adjustment 3-2
      - 1-2-3. FM Carrier Frequency Adjustment 3-2
      - 1-2-4. FM Deviation Frequency Adjustment 3-2
      - 1-2-5. Recording Luminance Level Adjustment 3-3
    - 1-3. Audio Circuit 3-3
      - 1-3-1. Record Bias Adjustment 3-3
    - 1-4. Tuner/IF Circuit 3-4
      - 1-4-1. VIF Adjustment 3-4
      - 1-4-2. RF AGC Adjustment 3-4
  - 2. 8mm Circuit Adjustment 3-5
    - 2-1. Servo Circuit 3-5
      - 2-1-1. PG Adjustment 3-5
    - 2-2. Y/C Circuit 3-5
      - 2-2-1. Playback Output Level Adjustment 3-5
      - 2-2-2. Color VCO Adjustment 3-5
    - 2-3. Audio Circuit 3-6
      - 2-3-1. FM VCO Adjustment 3-6
      - 2-3-2. FM Deviation Adjustment 3-6
- **BLOCK DIAGRAMS 3-7**
  - 1. VHS Block Diagrams 3-7
    - 1-1. Power Block Diagram 3-7
    - 1-2. Pre-Amp Block Diagram 3-8
    - 1-3. Y/C Block Diagram 3-9
    - 1-4. Tuner/IF & Audio Block Diagram 3-11
    - 1-5. In/Out & Function OSD Block Diagram 3-13
    - 1-6. Main System (Servo, Syscon, Timer) Block Diagram 3-15
  - 2. 8mm Block Diagrams 3-18
    - 2-1. Main System (Servo, Syscon) Block Diagram 3-18
    - 2-2. Main Analog (Y/C, Audio) Block Diagram 3-21
    - 2-3. Pre-Amp Block Diagram 3-23
- **CIRCUIT DIAGRAMS 3-25**
  - 1. VHS Circuit Diagrams 3-25
    - 1-1. Power Circuit Diagram 3-25
    - 1-2. Main System (Servo, Syscon) Circuit Diagram 3-29
    - 1-3. Timer/Key Function Circuit Diagram 3-32
    - 1-4. Pre-Amp Circuit Diagram 3-35
    - 1-5. Y/C Circuit Diagram 3-39
    - 1-6. Tuner/IF & Audio Circuit Diagram 3-41
    - 1-7. Scart In/Out & Function OSD Circuit Diagram 3-45
    - 1-8. Connection Diagram 3-47

2. 8mm Circuit Diagrams 3-49
    2-1. Main System (Servo, Syscon) Circuit Diagram 3-49
    2-2. Main Analog (Y/C, Audio) Circuit Diagram 3-52
    2-3. Pre-Amp Circuit Diagram 3-55

PRINTED CIRCUIT BOARD DIAGRAMS

1. VHS Printed Circuit Board 3-57
    1-1. Main P.C.Board 3-57
    1-2. Power 1. P.C.Board 3-59
    1-3. Power 2. P.C.Board 3-60
    1-4. Power 3. P.C.Board 3-60
    1-5. Timer (Ⅰ) P.C.Board 3-59
    1-6. Pre-Amp P.C.Board 3-61
    1-7. Deck Junction P.C.Board 3-61
    1-8. Scart In/Out P.C.Board 3-62
2. 8mm Printed Circuit Board 3-63
    2-1. Main P.C.Board 3-63
    2-2. Timer (Ⅱ) P.C.Board 3-64
    2-3. Pre-Amp P.C.Board 3-65
    2-4. Deck Junction P.C.Board 3-67

SECTION 4 MECHANISM

SECTION 4-1

VHS DECK MECHANISM

FRONT LOADING MECHANISM DISASSEMBLY

- Front Loading Mechanism Parts Location 4-3
1. Front Loading Mechanism Assembly 4-4
2. PCB Assembly 4-5
    2-1. PCB Assembly (R) 4-5
    2-2. PCB Assembly (L) 4-5
3. Top Plate 4-5
4. Carrier Bracket Assembly 4-6
    4-1. Carrier Bracket Assembly 4-6
    4-2. Cassette Opener 4-6
    4-3. Lid Opener 4-6
    4-4. Lever and Spring Detect 4-6
    4-5. Support Bracket Assembly 4-7
    4-6. Carrier Bracket Assembly 4-7
5. Cassette Guide 4-7
6. Bracket Assembly Side 4-8
7. Bracket Assembly (L), (R) 4-8
8. Door Opener 4-8
9. Drive Gear Assembly 4-8
    9-1. Drive Gear Assembly 4-8
    9-2. Cushion Spring 4-8
    9-3. Cap-D 4-8
    9-4. Spring C.C 4-8
    9-5. Gear C 4-8
    9-6. Gear R 4-9
    9-7. Spring R 4-9
    9-8. Gear L 4-9
    9-9. Spring L 4-9
    9-10. Switch Lever 4-9

DECK MECHANISM DISASSEMBLY 4-10

- Deck Mechanism Parts Location 4-10
1. Auto Head Cleaner Assembly 4-11
2. Drum and Drum Base Assembly 4-11
3. Upper and Lower Drum Assembly 4-11
4. A/C Head Assembly 4-12
5. Pinch Lever Assembly 4-12
6. Loading Motor Assembly 4-12
7. Take Up Lever 4-13
8. Take Up Arm Assembly 4-13
9. P4 Assembly 4-13
10. Pinch Gear 4-14
11. Full Erase Head Assembly 4-14
12. P1 Assembly 4-14
13. Tension Arm Assembly 4-14
14. Supply Main and Supply Soft and Take Up Main Brake Assembly 4-15
15. Bracket F/R Assembly 4-15
16. Supply Reel Assembly 4-15
17. Take Up Reel Assembly 4-15
18. Idler Gear (A), (B) 4-16
19. Pulley Gear Assembly 4-16
20. Bracket Bottom Assembly 4-16
21. Junction PCB Assembly 4-16
22. Capstan Motor/Brake Assembly 4-17
23. Function Plate 4-17
24. Ratchet Lever Assembly 4-18
25. Cam Gear, Rack T, Rack F.L 4-18
26. PC Gear 4-19
27. P2 and P3 Slant Assembly 4-19
28. Loading Gear Assembly 4-19
29. Tension Lever Assembly 4-20
30. Clutch Gear Assembly 4-20

MECHANISM ADJUSTMENT 4-21

- Tools and Fixtures for Deck 4-21
1. Mechanism State Switch (Mode Switch) Check 4-22
2. Preparation for Adjustment (To set VCR to the Loading State without inserting a cassette) 4-23
3. Reel Table Height Adjustment 4-23
4. Tension post position and Tension Adjustment 4-24
5. Checking Torque 4-25
6. Guide Post Height Adjustment 4-26
7. Guide Roller Height Adjustment 4-27

8. Audio Control (A/C) Head Adjustment 4-29
9. X-Value Adjustment.......................................4-30
10. Adjustment after Replacing Drum Assembly 4-31
11. Maintenance/Inspection Procedure 4-32

MECHANISM TROUBLESHOOTING GUIDE

1. Deck Mechanism 4-35
2. Front Loading Mechanism 4-39

EXPLODED VIEW

1. Moving Mechanism Section (I) 4-41
2. Moving Mechanism Section (II) 4-43
3. Front Loading Mechanism Section 4-45

SECTION 4-2
8mm DECK MECHANISM

Periodical Check and Maintenance.................4-47
1. Rotary Drum Assembly Cleaning.................4-47
2. Tape Loading Course Cleaning.....................4-47
3. Drive System Cleaning 4-47
4. Maintenance Time Table..............................4-48

Deck Mechanism Disassembly........................4-49
1. Housing Ass'y Disassembly..........................4-49
2. DC Motor (Capstan motor) Ass'y 4-49
3. Pinch Arm Ass'y and Pinch Lever Ass'y 4-50
4. Take up Arm Ass'y 4-51
5. Mode Lever Ass'y and Take up Lever Ass'y .4-52
6. Soft Brake Ass'y and T/Band Protect...........4-52
7. Tension Regulator Ass'y and Slant Roller Arm Ass'y 4-53
8. Tension Regulator FWD Position and Back Tension Adjustments............................4-54
9. Worm Gear Ass'y Middle Gear, Trains Gear Ass'y, Loading Motor Ass'y and Bracket Ass'y 4-55
10. Loading Base Ass'y, Mode Gear A'ssy and Eject Lever Ass'y...4-56
11. Gear Loading Ass'y (S), (T), Slant Base Ass'y (S), (T), Cam Gear and Lever Drive Ass'y...4-58
12. Drum Base Ass'y and Interia Roller Ass'y.....4-60
13. Brake Clutch, Reel Ass'y (S), Reel Ass'y (T), Sensor Bracket, Idler Gear Ass'y and Cam Spacer...4-62
14. Brake Reel Ass'y, Lever Brake Ass'y, Timing Belt, Idler Belt, Drive Gear Ass'y, Conversion Gear Ass'y 4-63
15. Drum Ass'y Disassembly 4-63
16. Drum disassembly 4-64
17. PCB Ass'y Deck 4-65

Deck Mechanism Adjustment 4-66
1. Deck Loading System Lay-Out 4-66
2. Preparations..4-66
3. Loading Post First Height Adjustment...........4-66
4. Tension Arm Position and Back Tension Adjustment 4-66
5. Reel Torque Check 4-67
6. Tape Path Adjustment...................................4-68

Exploded View..4-71
1. Cassette Housing Section.............................4-71
2. Chassis Mechanism Section.........................4-73

SECTION 5
REPLACEMENT PARTS LIST

1. Mechanical Section..5-1
   1-1. VHS Mechanism 5-1
   1-2. 8mm Mechanism...5-5
2. Cabinet & Main frame Section 5-7
3. Packing Accessory Section..............................5-8
4. Remote Control Section..................................5-8
5. Fixture Section 5-8
6. Electrical Section 5-9

SECTION1 SUMMARY

KEY TO ABBREVIATIONS

A	AC	: Alternating Current
	ACC	: Automatic Color Control
	ADJ	: Adjust
	A/E	: Audio Erase
	AFC	: Automatic Frequency Control
	AFT	: Automatic Fine Tuning
	AGC	: Automatic Gain Control
	ALC	: Automatic Level Control
	AM	: Amplitude Modulation
	AMP	: Amplifier
	ANT	: Antenna
	APC.	: Automatic Phase Control
	ASS'Y	: Assembly
	AUD	: Audio
	AUTO	: Automatic
	AUX	: Auxiliary
B	B	: Base
	BPF	: Bandpass Filter
	BW or B/W	: Black and White
C	C	: Capacitor, Chroma, Collector
	CAN	: Cancel
	CAP	: Capstan
	CATV	: Cable Television
	CBA	: Circuit Board Assembly
	CCD	: Charge Coupled Device
	CFG	: Capstan Frequency Generator
	CH	: Channel
	CHROMA	: Chrominance
	CLK	: Clock
	CNR	: Chroma Noise Reduction
	COMB	: Combination Comb Filter
	COMP	: Comparator Composite Compensation
	CONV	: Converter
	CS	: Chip Select
	CST	: Cassette
	CTL	: Control
	CUR	: Current
	CYL	: Cylinder
D	D	: Drum, Digital, Diode, Drain
	dB	: Decibel
	DC	: Direct Current
	DEMOD	: Demodulator
	DET	: Detector
	DEV	: Deviation
	DHP	: Double High Pass
	DIGITRON	: Digital Display Tube
	DL	: Delay Line
	DOC	: Drop Out Compensator
	D/V	: Dummy Vertical
E	E	: Emitter
	EE	: Electric to Electric
	EMP	: Emphasis
	EP	: Extended Play
	EQ	: Equalizer
	ES	: Electrostatically Sensitive
F	F	: Fuse
	FB	: Feed Back
	FBC	: Feed Back Clamp
	FE	: Full Erase
	FF	: Fast Forward
	FG	: Frequency Generator
	FL	: Filter
	FM	: Frequency Modulation
	F/R	: Front/Rear
	FS	: Frequency Synthesizer
	FSC	: Subcarrier Frequency
	F/V	: Frequency Voltage
	FWD	: Forward
G	GEN	: Generator
	GND	: Ground
H	H	: High, Horizontal
	Hz	: Hertz
I	IC	: Intergrated Circuit
	IF	: Intermediate Frequency
	INS	: Insert
	I/O	: Input/Output
L	L	: Low, Left, Coil
	LD	: LED
	LECHA	: Letter Character
	LP	: Long Play
	LPF	: Low Pass Filter
M	MAX	: Maximum
	MD	: Modulator
	MIC	: Microphone
	MIN	: Minimum
	MIX	: Mixer, Mixing
	M.M.	: Mono Multi Vibrator
	MMV	: Monostable Multivibrator
	MOD	: Modulation, Modulator
	MODEM	: Modulator-Demodulator
N	NR	: Noise Reduction
O	OSC	: Oscillator
	OSD	: On Screen Display
P	PB	: Playback
	PCB	: Printed Circuit Board
	PG	: Pulse Generator
	PLL	: Phase Locked Loop
	P-P	: Peak-to-Peak
	PRE-AMP	: Preamplifier
	PS	: Phase Shift
	PWM	: Pulse Width Modulation
Q	Q	: Transistor
	QH	: Quasi Horizontal
	QSR	: Quick Setting Record
	QTR	: Quick Timer Record
	QV	: Quasi Vertical
R	R	: Resistor, Right
	RE(or RC)	: Remocon, Receiver
	REC	: Recording
	REF	: Reference
	REG	: Regulated, Regulator
	REMOCON	: Remote Control(unit)
	REV	: Reverse
	REW	: Rewind
	RF	: Radio Frequency
	R/P	: Record/Playback
	RTC	: Real Time Counter
S	S	: Serial
	SH	: Shift
	SHARP	: Sharpness
	SIF	: Sound Intermediate Frequency
	SLD	: Side Locking
	S/N	: Signal to Noise Ratio
	SP	: Standard Play
	SUB	: Subtract, Subcarrier
	SW or S/W	: Switch
	SYNC	: Synchronization
	SYSCON	: System Control
T	T	: Coil
	TP	: Test Point
	TR	: Transistor
	TRK	: Tracking
	TRANS	: Transformer
	TU	: Tuner, Take-Up
U	UHF	: Ultra High Frequency
	UNREG	: Unregulated
V	V	: Volt, Vertical
	VA	: Always Voltage
	VCO	: Voltage Controlled Oscillator
	VGC	: Voltage Gain Control
	VHF	: Very High Frequency
	VISS	: VHS Index Search
	VR	: Variable Resistor or Volume
	V-Sync	: Vertical Synchronization
	VTG	: Voltage
	VV	: Voltage to Voltage
	VXO	: Voltage X-tal Oscillator
W	W	: Watt
	WHT	: White
	W/O	: With Out
X	X-TAL	: Crystal
Y	Y/C	: Luminance/Chrominance
	YNR	: Luminance Noise Reduction
Z	ZD	: Zener Diode

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (■) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistor

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.(Fig. 1)

6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10-15Kg of force in any direction will not loosen it.(Fig. 2)

9. Also check areas surrounding repaired locations.

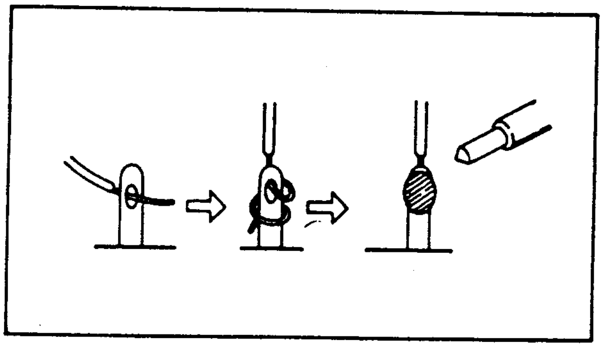


Fig. 1

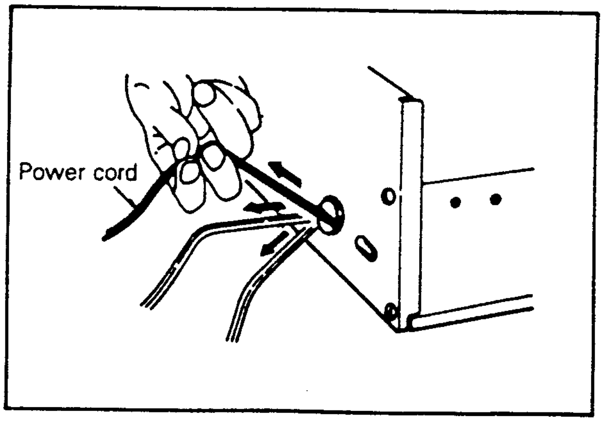


Fig. 2

10. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the parts specified. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

• Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set(RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

• Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

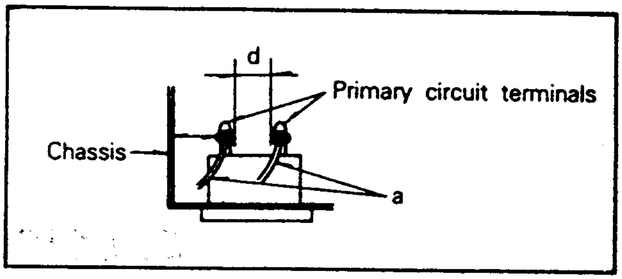


Fig. 3

Table 1:Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d)
*110 to 130 V 200 to 240 V	Europe Australia	≧10 MΩ/500 V DC	4kV 1 minute	≧6mm(d) ≧8mm(d) (a Power cord)

*Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

• Leakage Current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

Measuring Method: (Power ON)
Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

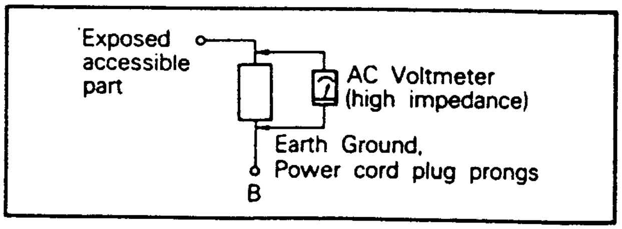

Exposed accessible part
Z
AC Voltmeter (high impedance)
Earth Ground, Power cord plug prongs
B

Fig. 4

Table 2:Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to:
100 to 130 V	Europe	2kΩ	i≦0.7m A peak i≦2m A dc	Antenna earth terminals
200 to 240 V	Australia	50kΩ	i≦0.7m A peak i≦2m A dc	Other terminals

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INTRODUCTION

This service manual provides a variety of service information. It contains the mechanical structure of the Double Deck Video Cassette Recorder together with mechanical adjustments and the electronic circuits in schematic form. This Double Deck VCR was manufactured and assembled under our strict quality control standards and meets or exceeds industry specifications and standards.

FEATURES

- the VHS and 8 mm system with HQ-picture technology for extraordinary picture-sharpness and high resolution.
- the digital tracking automatic which makes the enjoying manual control obsolete.
- automatic power and playback.
- four VHS video heads for a clear still image and a variable slow motion.
- three 8 mm video heads for 8 mm playback only.
- assemble editing from 8 mm tape to VHS tape.
- the easy searching of your recordings by automatic and manual index marking, that can also be erased.
- the quick mechanism for fast tape function transitions.
- the long play VHS recording and playback facility.
- the real time tape counter and the VHS remaining tape time display.
- 8 timer programme memories, also for daily or weekly recurring recordings, within one year can be programmed at the same time.
- the on-screen display of many functions e.g. the stored timer programmes.
- and many more, like additional audio and video input at the front, Euro-AV sockets, audio dubbing, child lock, immediate recording timer, and title generator.
- SHOWVIEW : Optional Function
  ShowView is a trademark applied for by Gemstar Development Corp.
  ShowView system is manufactured under license from Gemstar Development Corporations.

SPECIFICATIONS

General

Power supply :	AC 230V(± 10%), 50Hz
Power consumption :	Approx. 45W
Cabinet size(W × H × D) :	430 × 99 × 390mm
Weight :	Approx. 8Kg
Operating temperature :	5° C to 35° C surrounding temperature
Operating humidity :	35-80%

8 mm Player section

Format :		8 mm PAL Standard
Heads :		3 video heads
Tape speed :	(SP)	20.05 mm/sec.
	(LP)	10.025 mm/sec.
Tape width :		8 mm
Video output :		1 Vpp 75 ohm unbalanced
Audio output :		500 mV, <1 kohm

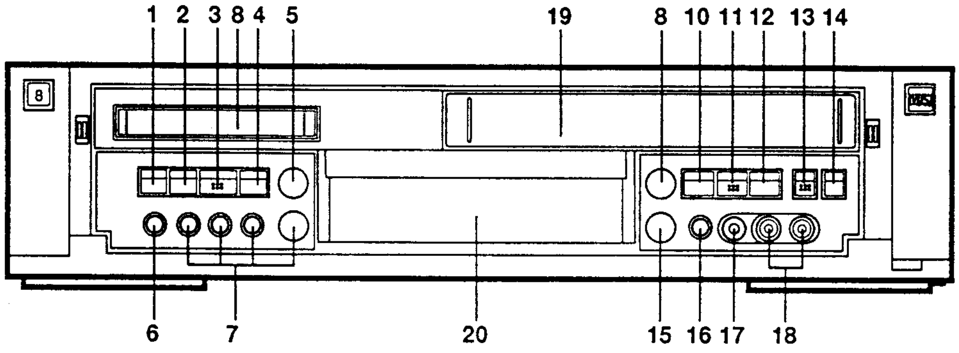
VHS Recorder section

Format :		VHS PAL Standard
Heads :		4 video heads
Tape speed :	(SP)	23.39 mm/sec.
	(LP)	11.635 mm/sec.
Tape width :		12.7 mm
Video :		PAL B/G
Recording/playback time :		300 min. (LP : 600 min.) with E-300
Aerial input :		PAL : VHF 2-12 UHF 21-69 CATV S1-S40
RF output :		UHF channels 32~40 (Variable)
Video input :		1 Vpp 75 ohm unbalanced
Video output :		1 Vpp 75 ohm unbalanced
S/N ratio (video) :		45dB nominal
Audio input :		500 mV, >50 kohm
Audio output :		500 mV, <1 kohm
S/N ratio (audio) :		45 dB nominal
Audio frequency range :		63-12,500 Hz nominal

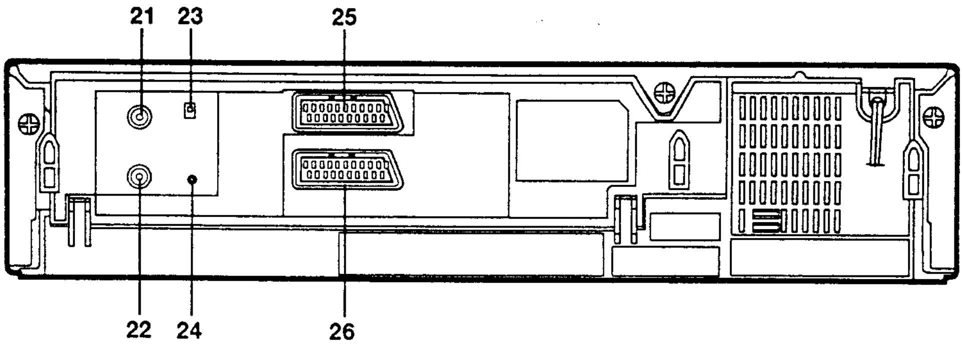
* Designs and specifications are subject to change without notice.

LOCATION OF CUSTOMER CONTROLS

FRONT



REAR



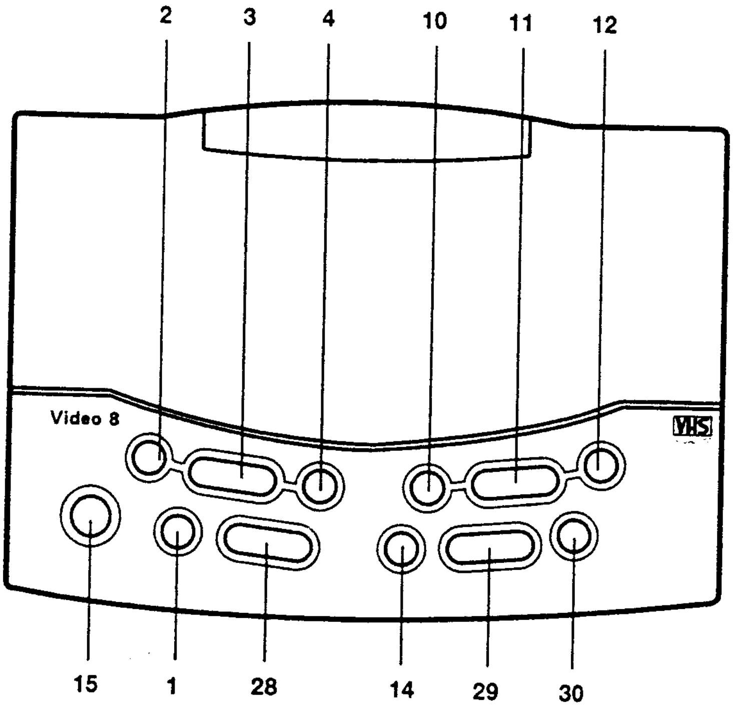
8 mm Player section

1. STILL BUTTON
2. REWIND/REVIEW BUTTON
3. PLAY BUTTON
4. FAST FORWARD/CUE BUTTON
5. STOP/EJECT BUTTON
6. V.INSERT BUTTON
7. ASSEMBLE EDITING BUTTONS
8. CASSETTE COMPARTMENT

VHS Recorder section

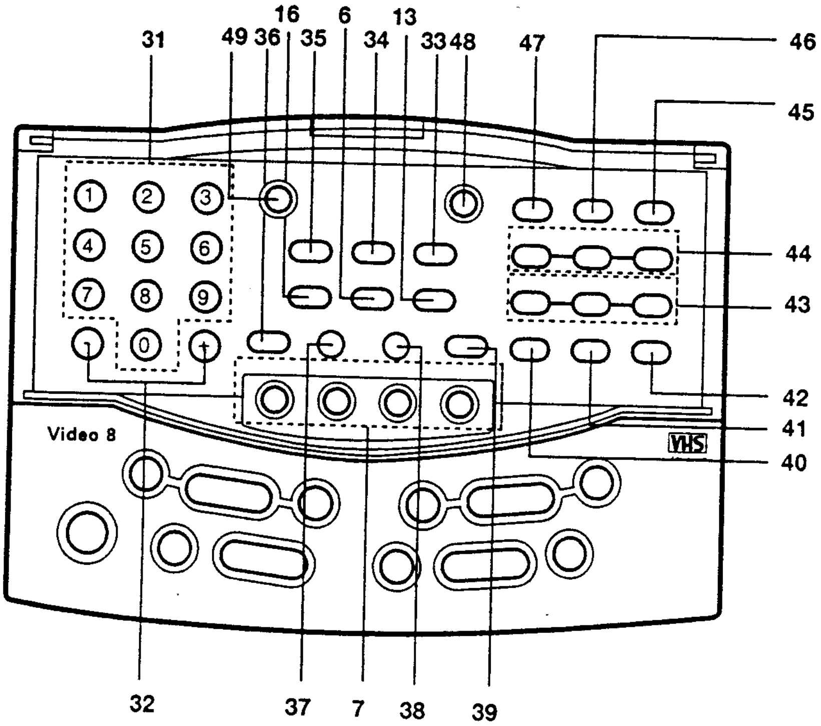
9. STOP/EJECT BUTTON
10. REWIND/REVIEW BUTTON
11. PLAY BUTTON
12. FAST FORWARD/CUE BUTTON
13. REC/QSR BUTTON
14. P/STILL BUTTON
15. OPERATE ON/OFF BUTTON
16. AUDIO DUBBING BUTTON
17. MIC IN JACK
18. AUDIO/VIDEO IN JACKS
19. CASSETTE COMPARTMENT
20. VCR DISPLAY
21. AERIAL INPUT SOCKET
22. RF OUT SOCKET
23. TPSG ON/OFF SWITCH
24. VIDEO CHANNEL CONTROL
25. EURO-AV 1 SOCKET
26. EURO-AV 2 SOCKET

REMOTE CONTROL


2
3
4
10
11
12
Video 8
VHS
15
1
28
14
29
30

1. STILL BUTTON
2. REWIND/REVIEW BUTTON
3. PLAY BUTTON
4. FAST FORWARD/CUE BUTTON
6. VIDEO DUBBING BUTTON
7. ASSEMBLE EDITING BUTTONS
10. REWIND/REVIEW BUTTON
11. PLAY BUTTON
12. FAST FORWARD/CUE BUTTON
13. REC/QSR BUTTON
14. P/STILL BUTTON
15. OPERATE ON/OFF BUTTON
16. AUDIO DUBBING BUTTON

28. STOP BUTTON
29. STOP BUTTON
30. FRAME ADVANCE BUTTON
31. NUMBER BUTTONS
32. PROG/TRK BUTTONS (+/−)
33. TAPE SPEED BUTTON
34. TU/AV BUTTON
35. MIC MIX BUTTON
36. AUTO TRACKING BUTTON
37. 8 mm RESET BUTTON
38. VHS RESET BUTTON


16
6
13
31
49
36
35
34
33
48
47
46
45
44
43
42
41
40
1
2
3
4
5
6
7
8
9
0
−
+
Video 8
VHS
32
37
7
38
39

39. REST BUTTON
40. MENU BUTTON
41. DISPLAY/PG. OUT BUTTON
42. CLEAR/PG. CLR BUTTON
43. SLOW/MFT BUTTONS
44. VISS BUTTONS
45. CHILD LOCK BUTTON
46. TV/VCR BUTTON
47. VPS BUTTON : *
48. SHOWVIEW BUTTON : *
49. MONITOR BUTTON

※ * : Optional Function

SECTION 2 CABINET & MAIN FRAME

SERVICE FIXTURE CONNECTING METHOD

1. SVC FIXTURE Connecting Method

A. FIXTURE Cable ① Connecting Method.

a) Connect the FIXTURE Cable ① between Main C.B.A and Junction C.B.A. (P2J01, P2J02, P2J03)

b) At this time, should be in the left side " ◄ LEFT" mark on the P.C.B of the FIXTURE Cable ①. (See Fig. 2-a, 2-c)

c) Connect the connector of "MAIN" mark of FIXTURE Cable ① with the Main C.B.A and the connector of "JUNCTION" mark with the Junction C.B.A. (See Fig. 2-a, 2-c)

B. FIXTURE Cable ② Connecting Method.

a) Connect the FIXTURE Cable ② between Main C.B.A and Pre-Amp Ass'y. (P3P01=P9301, P3P02=P9302)

b) At this time, should be in the left side " ◄ LEFT" mark on the P.C.B of the FIXTURE Cable ②. (See Fig 2-a, 2-b)

c) Connect the connector of "MAIN" mark of FIXTURE Cable ② with the Main C.B.A and the connector of "JUNCTION" mark with the Pre-Amp Ass'y. (See Fig. 2-a, 2-b)

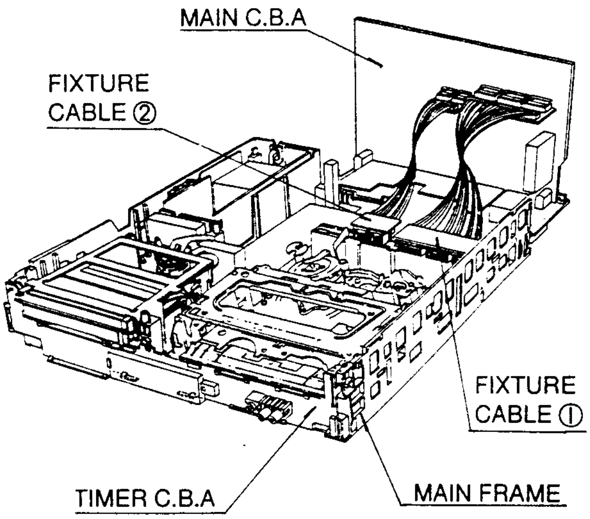

MAIN C.B.A
FIXTURE CABLE ②
FIXTURE CABLE ①
TIMER C.B.A
MAIN FRAME

Fig. 2-a

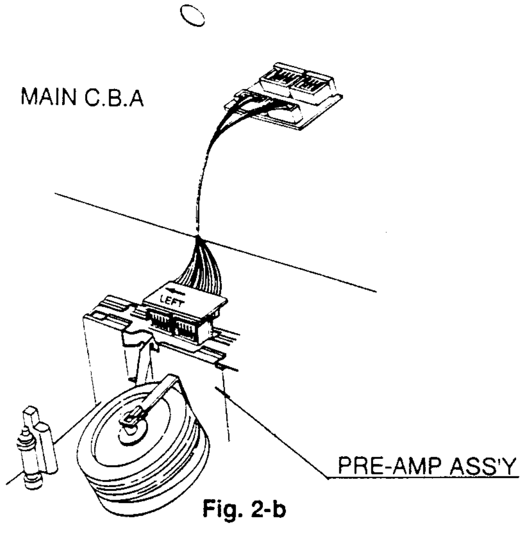

MAIN C.B.A
LEFT
PRE-AMP ASS'Y

Fig. 2-b

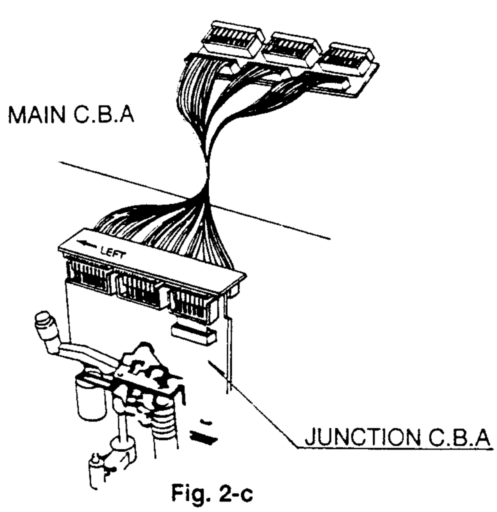
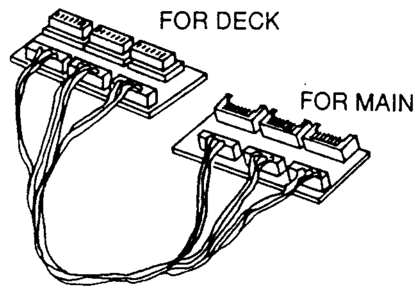

MAIN C.B.A
LEFT
JUNCTION C.B.A

Fig. 2-c

2. Electrical Service Fixture List

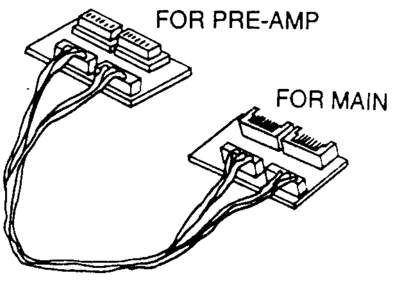
A. Fixture Cable ①.

Parts No.: 232-972A (Optional Parts)


FOR DECK
FOR MAIN

B. Fixture Cable ②.

Parts No.: 515-789A (Optional Parts)


FOR PRE-AMP
FOR MAIN

CABINET DISASSEMBLY

1. Top Case

A. Release 7 screws (1).

B. Hold the back of Top Case and lift it up slightly backward to remove it.

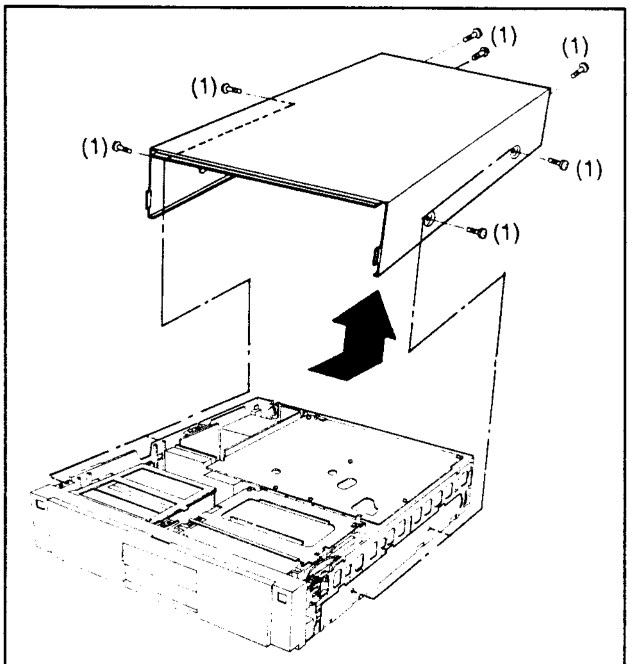


Fig. 2-1

2. Bottom Cover

A. Release 9 screws (2) to remove the Bottom Cover.

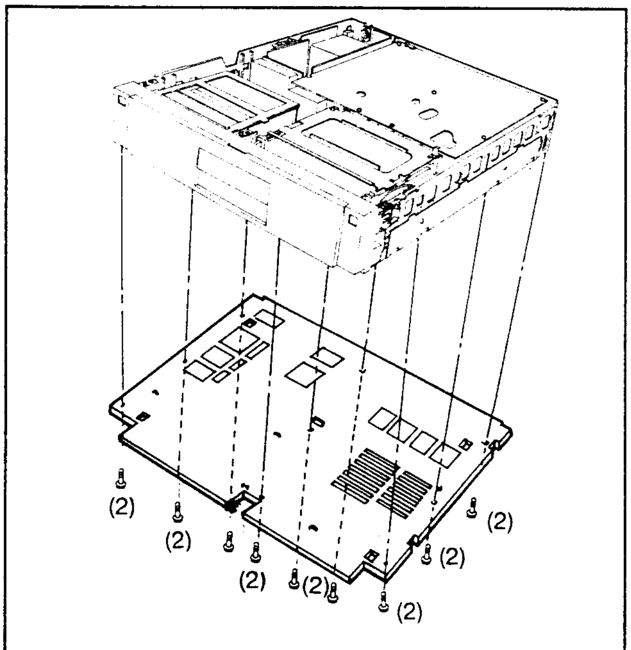


Fig. 2-2

3. Front Panel

A. Release 2 screws (3).

B. Remove the stoppers on the top of Front Panel.

C. Remove the stoppers on the bottom side Front Panel.

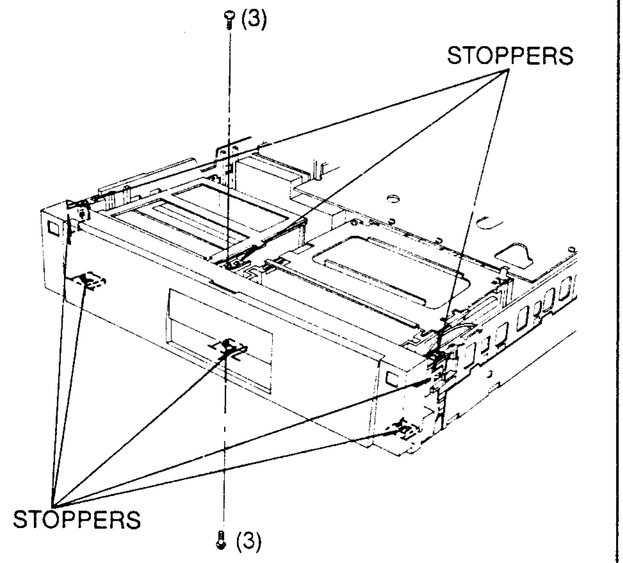


Fig. 2-3

* Caution

When reassemble the Front panel, assemble it in condition of inserting the Door Cassette inside, as shown in Fig.2-4

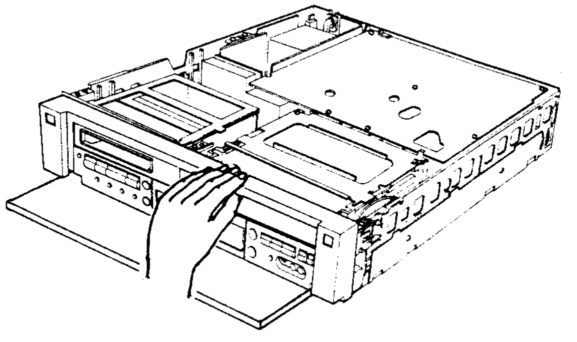


Fig. 2-4

CIRCUIT BOARD DISASSEMBLY

1.Circuit Board Arrangement

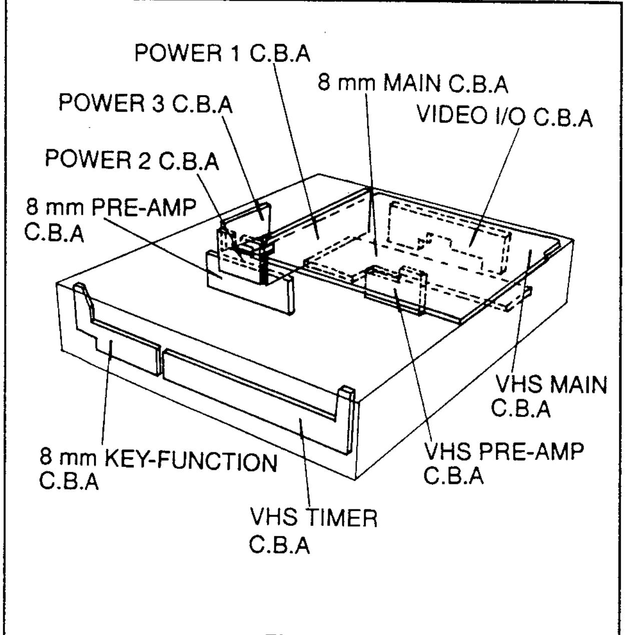

POWER 1 C.B.A
8 mm MAIN C.B.A
POWER 3 C.B.A
VIDEO I/O C.B.A
POWER 2 C.B.A
8 mm PRE-AMP C.B.A
VHS MAIN C.B.A
8 mm KEY-FUNCTION C.B.A
VHS PRE-AMP C.B.A
VHS TIMER C.B.A

Fig. 2-5

2. VHS Main Circuit Board

A. Release 6 screws (4).
B. Remove the Main C.B.A in the direction of arrow (A).

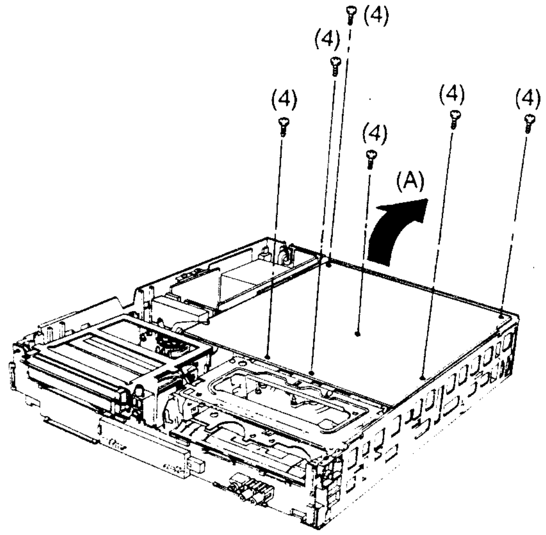


Fig. 2-6

3. Power 1, 2, 3 Circuit Board

A. Remove the Bottom Cover. (Fig. 2-2)
B. Release 4 screws (5).
C. Remove the Power C.B.A in the direction of arrow (B).

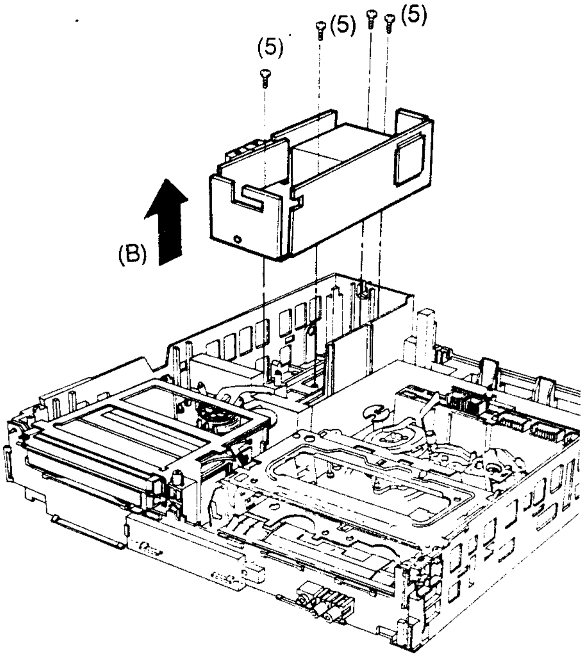


Fig. 2-7

4. 8mm Main Circuit Board

A. Release 3 screws (6).
B. Remove the 8mm Main C.B.A in the direction arrow (C).

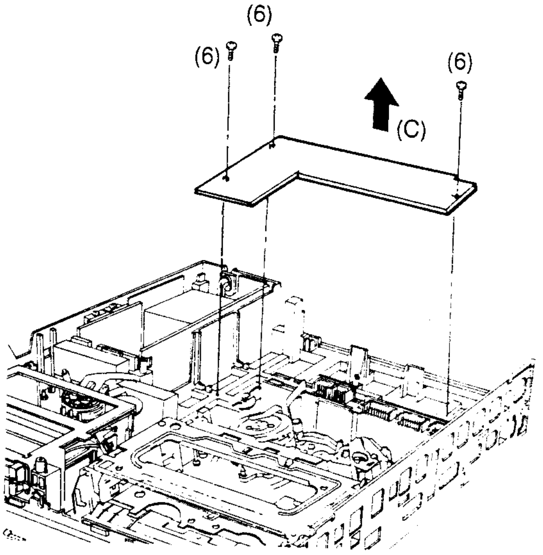


Fig. 2-8

5. 8mm/VHS Pre-Amp Circuit Board

A. Release 2 screws (7).
B. Remove the 8mm Pre-Amp C.B.A.
C. Release 3 screws (8).
D. Remove the VHS Pre-Amp C.B.A.

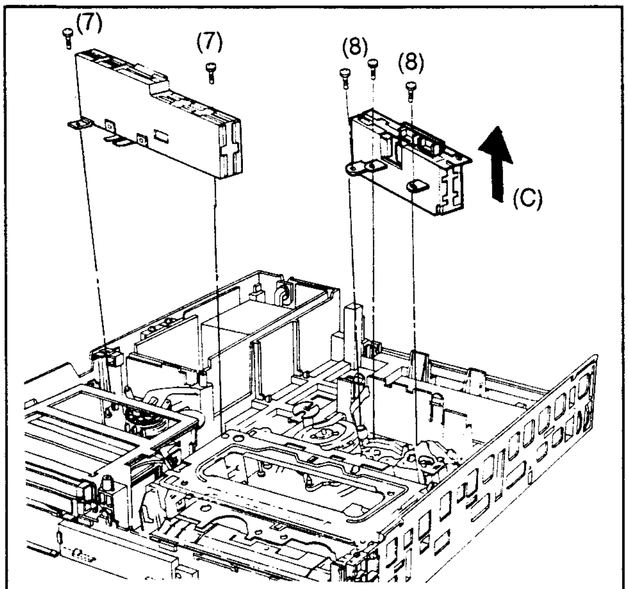


Fig. 2-9

6. 8 mm/VHS Key Function Circuit Board

A. Release screw (9).
B. Release 5 stoppers in the direction arrow (D).
C. Remove the 8mm/VHS Key Function C.B.A in the direction arrow (E).

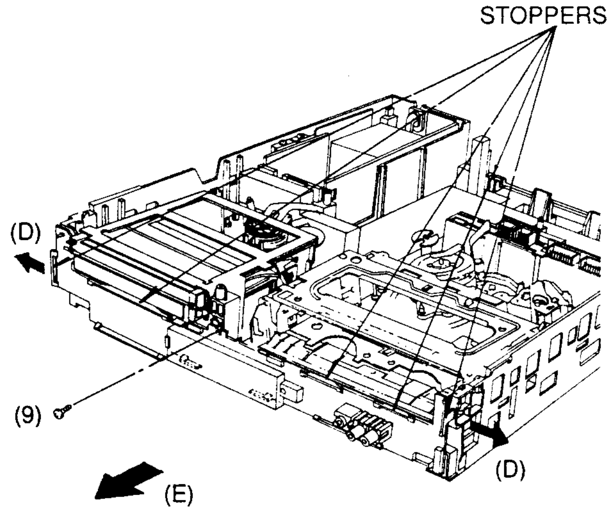
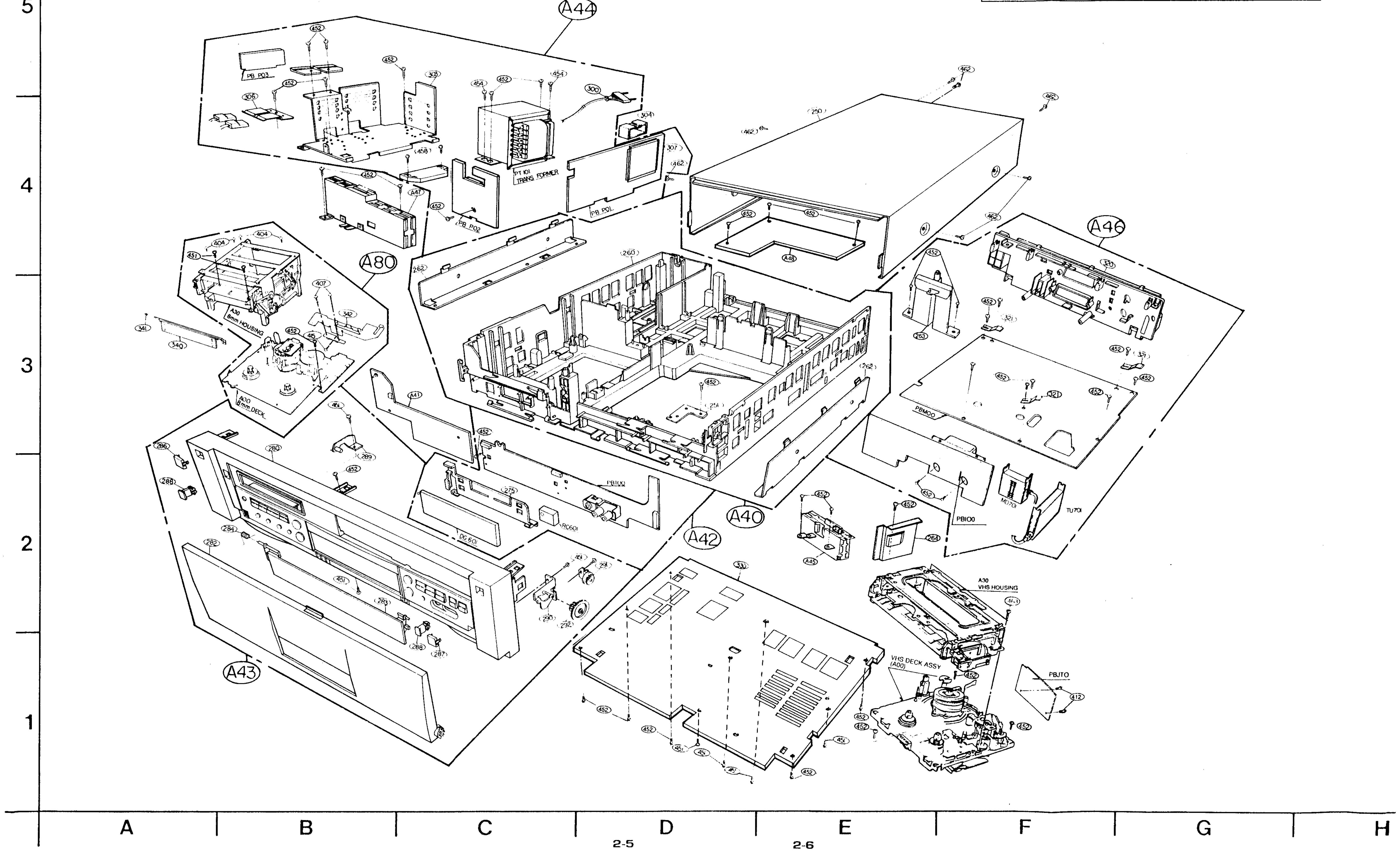


Fig. 2-10

EXPLODED VIEWS

1. Cabinet & Main Frame Section

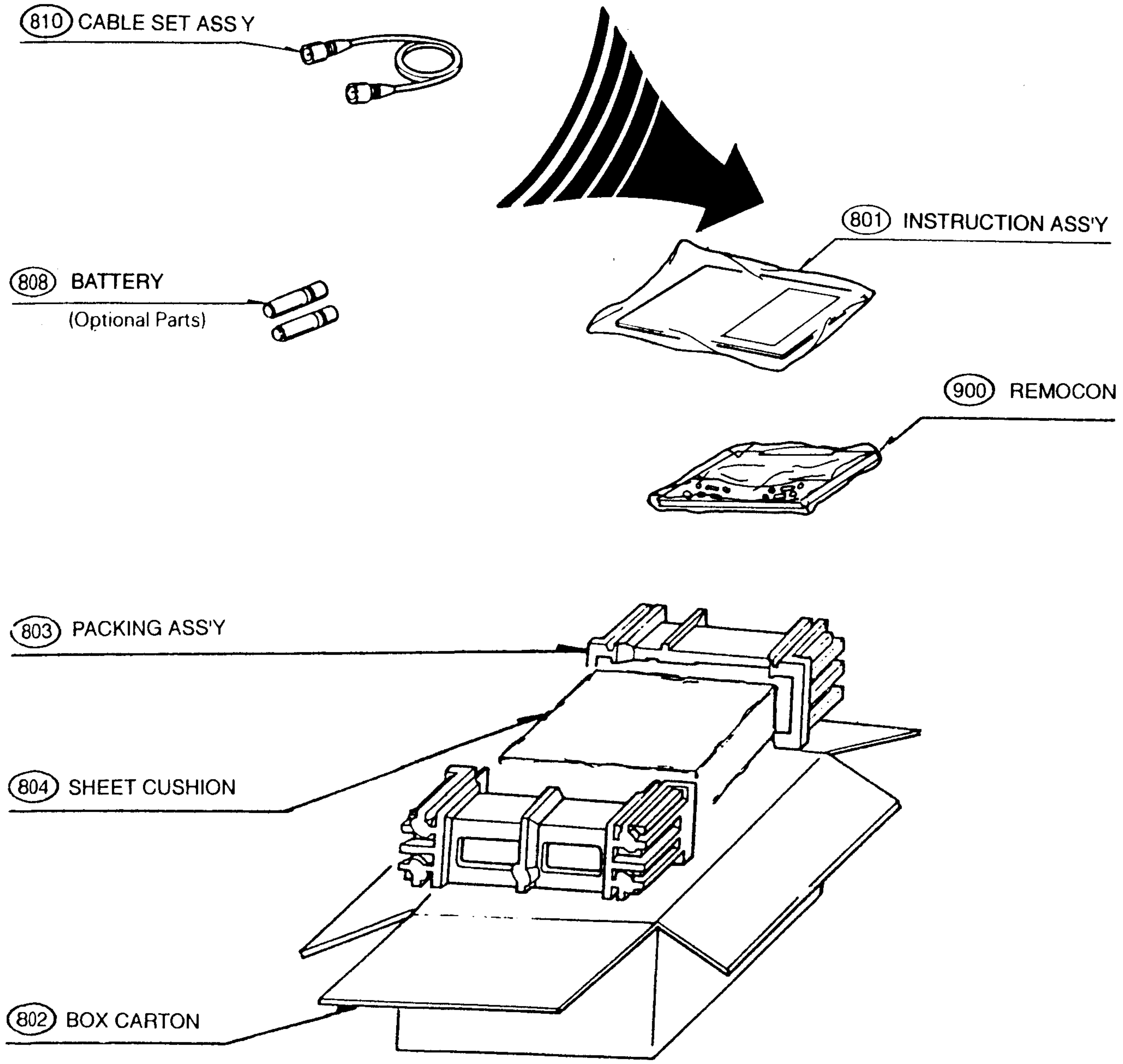
NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



5
4
3
2
1
A
B
C
D
E
F
G
H
A44
452
454
303
300
304
305
307
458
462
PB P03
PT 101 TRANS FORMER
PB P01
PB P02
A47
250
A48
A46
320
321
263
A80
404
451
407
342
341
340
A30 8mm HOUSING
A00 8mm DECK
262
260
251
A41
A40
PBM00
PBI00
M0701
TU701
264
A45
461
289
286
288
280
284
282
283
287
291
290
292
275
PB100
RC601
DG 601
A42
A43
331
A30 VHS HOUSING
VHS DECK ASSY (A00)
PBJT0
412

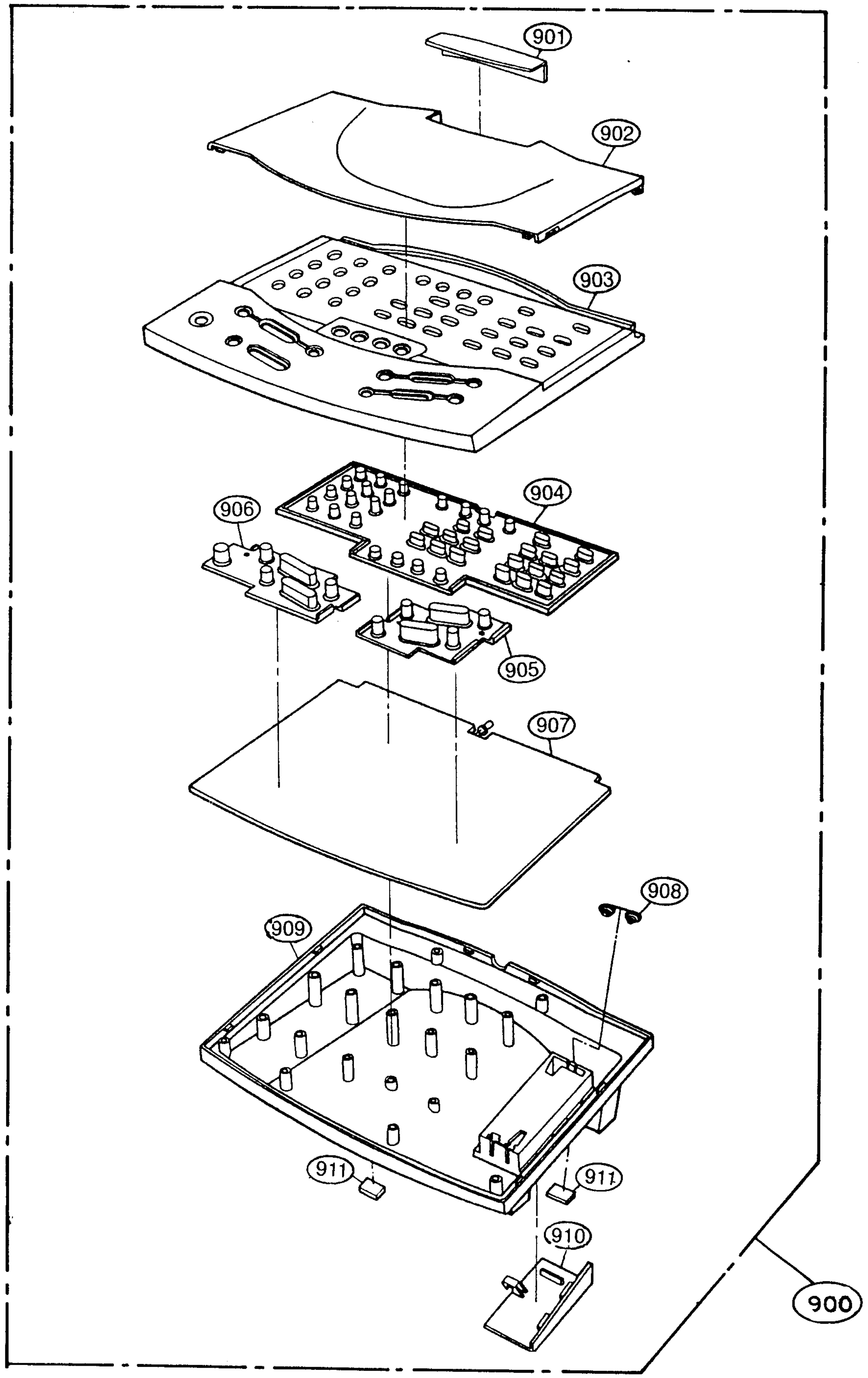
2. Packing Accessory Section

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



810 CABLE SET ASS Y
808 BATTERY
(Optional Parts)
801 INSTRUCTION ASS'Y
900 REMOCON
803 PACKING ASS'Y
804 SHEET CUSHION
802 BOX CARTON

3. Remote Control Section



901
902
903
904
906
905
907
908
909
911
911
910
900

SECTION 3 ELECTRICAL

ELECTRICAL ADJUSTMENT PROCEDURES

• Electronic Test Equipment Requirement

- Oscilloscope
- Video signal Generator
- Modem Tester
- Level Meter
- Frequency Counter
- Power Supply
- Monitor Scope
- + Driver
- Test Tape (SP)-PAL (VHS, 8mm)
- Recording Tape (VHS)
- Digital Multimeter

1. VHS Circuit Adjustment

1-1. Servo Circuit

1-1-1. PG Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK	6.5H±0.5H (1H=64.0μsec)	TP201 (H.SW) TP202 (V.Out terminal)	VR201

Procedure :

a. Playback a VHS PAL SP test tape.
b. Connect CH-1 of oscilloscope to TP201 (H.SW) and CH-2 to TP202 (Video Out terminal).
c. Trigger the complex Video signal to CH-1 H.SW, and adjust VR201 so that the distance from switching point of H.SW signal to the starting point of horizontal synchronized signal is 6.5H± 0.5H (416±32μsec)

Waveform

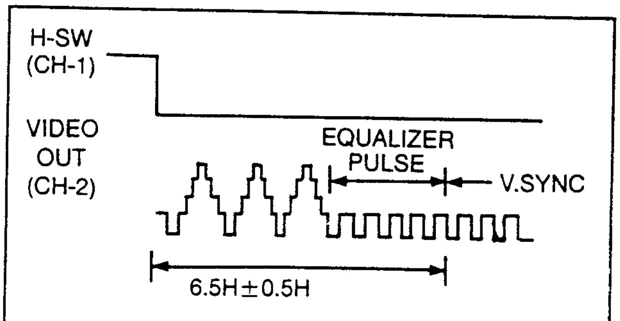


Fig. 3-1-1

1-2. Y/C Circuit

1-2-1. EE Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
STOP	2.0±0.1Vp-p	TP202	VR304

Procedure :

a. Connect the Video signal Generator to Video in terminal.
b. Input Color Bar signal to Video in terminal.
c. Connect CH-1 of oscilloscope to TP202.
d. Adjust VR304 so that the value from the lower part of synchronism to 100% white signal is 2.0 ±0.1Vp-p.

Waveform

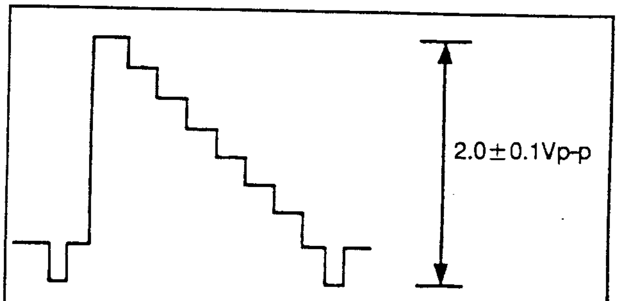


Fig. 3-1-2

1-2-2. Playback Luminance Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	2.0±0.1Vp-p	TP202	VR305

Procedure :

a. Connect CH-1 of oscilloscope to TP202.
b. Playback a VHS PAL SP test tape (with 100% white signal).
c. Adjust VR305 so that the value from the lower part of synchronism to 100% white signal is 2.0 ±0.1Vp-p.

Waveform

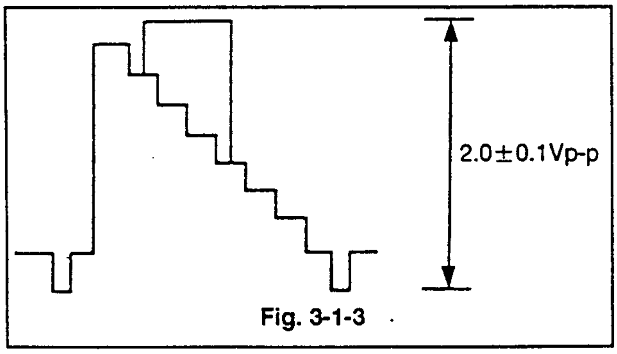


Fig. 3-1-3

1-2-3. FM Carrier Frequency Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	3.8MHz±0.05MHz at SYNC Tip	TP301 (CAR/DEV TP)	VR303

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect In terminal of Modem Tester to TP301.
c. Connect Out terminal of Modem Tester to CH-1 of oscilloscope (But the set and the Modem Tester should be connected with 10:1 probe).
d. The terminal position of Modem Tester is operated to be ATT.0dB, PAL/SECAM mode, Demod, Marker on.
e. Adjust VR303 so that SYNC Tip of video signal is agreed with 3.8MHz Marker on scope.

Waveform

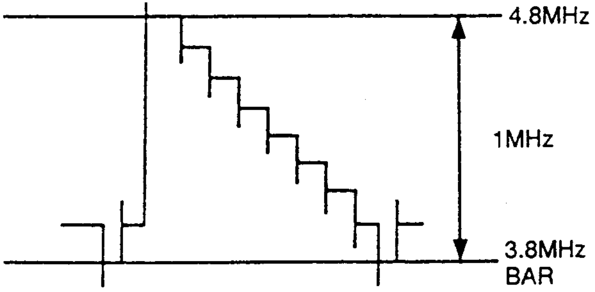


Fig. 3-1-4

1-2-4. FM Deviation Frequency Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	4.8MHz±0.05MHz at White Peak	TP301 (CAR/DEV TP)	VR301

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect In terminal of Modem Tester to TP301.
c. Connect Out terminal of Modem Tester to CH-1 of oscilloscope (But the set and the Modem Tester should be connected with 10:1 probe).
d. The terminal position of Modem Tester is operated to be ATT.0dB, PAL/SECAM mode, Demod, Marker on.
e. Adjust VR301 so that 100% white peak of video signal is agreed with 4.8MHz Marker on scope.

Waveform

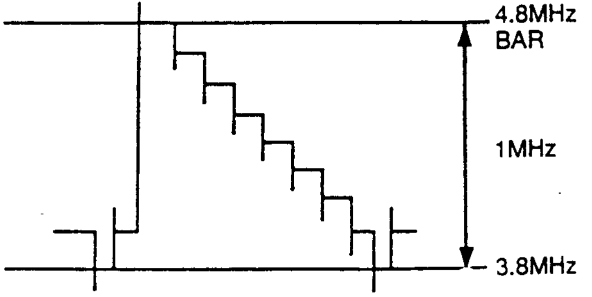


Fig. 3-1-5

1-2-5. Recording Luminance Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD LINE mode	350mVp-p	TP302 (REC-Y)	VR302

Procedure :

a. Input Color Bar signal (with 100% white signal) to Video in terminal (Scart Jack).
b. Connect CH-1 of oscilloscope to TP202.
c. Connect CH-2 of oscilloscope to TP302.
d. Record the SP mode.
e. Adjust VR302 so that the waveform is 350mVp-p.

Waveform

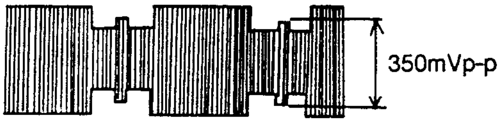


Fig. 3-1-6

1-3. Audio Circuit

1-3-1. Record Bias Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
RECORD (SP)	2.6±0.05mVrms	R436 Both Terminal	VR401

Procedure :

a. Loading the recording tape and record.
b. Connect (+), (−) terminal of Level Meter to both terminals R436.
c. Adjust VR401 so that the oscillation voltage fit to specification.

1-4. Tuner/IF Circuit

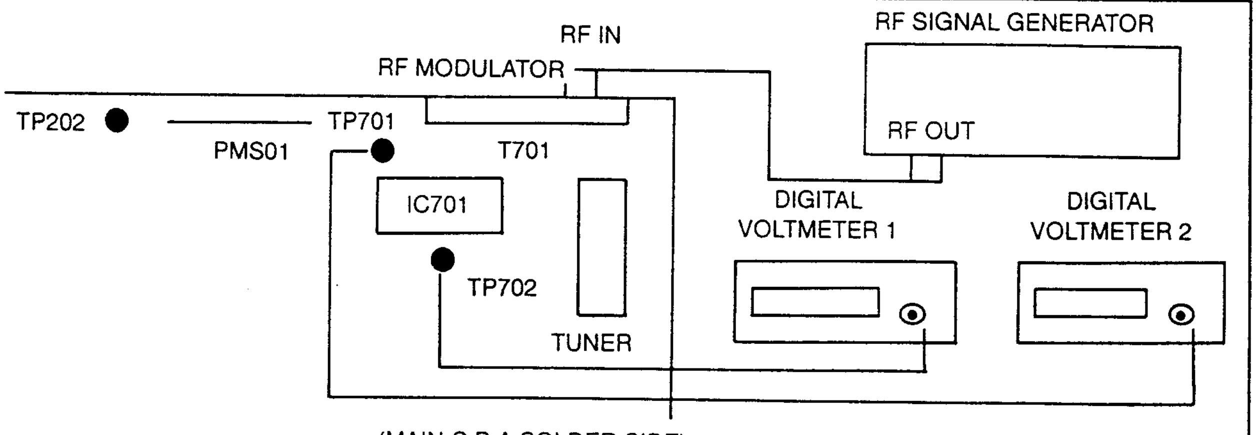
1-4-1. VIF Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
EE	2.5V±0.1V	TP702	T701

Procedure :

a. Connect as shown in Fig. 3-1-7.
b. Receive the CH-11 (217.25MHz).
c. Adjust T701 so that the Digital voltmeter 1 is 2.5 ±0.1V.

CONNECTION DIAGRAM


RF IN
RF MODULATOR
RF SIGNAL GENERATOR
RF OUT
TP202
PMS01
TP701
T701
IC701
TP702
TUNER
DIGITAL VOLTMETER 1
DIGITAL VOLTMETER 2

(MAIN C.B.A SOLDER SIDE)

Fig. 3-1-7

***Caution in testing**

1. When practing this adjustment, adjust after more than 10minutes with TV set turning on.
2. Adjust after completing itself test of measuring apparatus.
3. Sweep OSC marker frequency is followed by Table 1.

***Abbreviation**

- APC : Adjacent Picture Carrier
- SIF : Sound Intermediate Frequency
- CIF : Color Intermediate Frequency
- CEN : Center Frequency
- PIF : Picture Intermediate Frequency
- ASC : Adjacent Sound Carrier

Table 1 Frequency Table (MHz)

BROADCASTING SYSTEM	ADJUSTMENT MARKER FREQUENCY					
	APC	SIF	CIF	CEN	PIF	ASC
PAL B/G+SECAM L	31.90	33.40	34.47	36.00	38.90	40.40

1-4-2. RF AGC Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
EE	$4.7^{+0.1}_{-0}$V	TP701	VR701

Procedure :

a. Connect as shown in Fig. 3-1-7.
b. Receive the CH-11(217.25MHz, strength of input electric field : 70dBμV).
c. Adjust VR701 so that the Digital voltmeter 2 is $4.7^{+0.1}_{-0}$V.

2. 8mm Circuit Adjustment

2-1. Servo Circuit

2-1-1. PG Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK	7H±1.8H (1H=64.0μsec)	TP4K1 (H.SW) TP3A1 (V.Out terminal)	VR501

Procedure :

a. Playback a 8mm PAL SP test tape.
b. Connect CH-1 of oscilloscope to TP4K1 (H.SW) and CH-2 to TP3A1 (Video Out terminal)
c. Trigger the complex Video signal to CH-1 H.SW, and adjust VR501 so that the distance from switching point of H.SW signal to the starting point of horizontal synchronized signal is 7H± 1.8H (448±115.2μsec).

Waveform

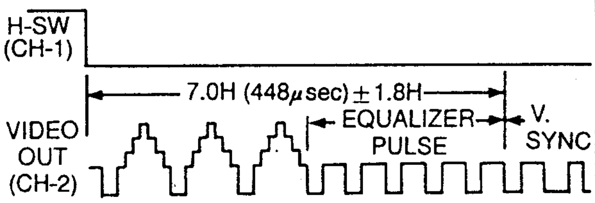


Fig. 3-2-1

2-2. Y/C Circuit

2-2-1. Playback Output Level Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	1.0±0.05Vp-p	TP3A1	VR3A1

Procedure :

a. Connect CH-1 of oscilloscope to TP3A1.
b. Playback a 8mm PAL SP test tape (Color bar with 100% white signal).
c. Adjust VR3A1 so that Video out level is 1.0± 0.05Vp-p.

Waveform

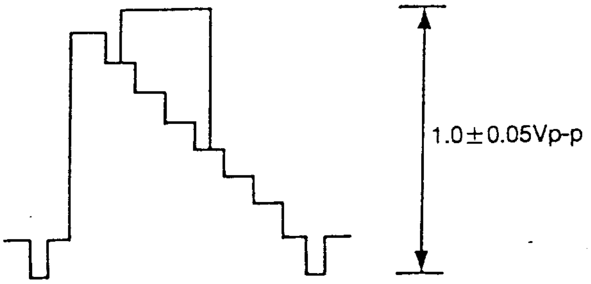


Fig. 3-2-2

2-2-2. Color VCO Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	DC2.5±0.1Vp-p	TP3A2	FL3A2

Procedure :

a. Connect CH-1 of oscilloscope to TP3A2.
b. Playback a 8mm PAL SP test tape (Color bar with 100% white signal).
c. Adjust FL3A2 so that DC level is 2.5±0.1Vp-p.

2-3. Audio Circuit

2-3-1. FM VCO Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	DC2.1±0.1Vp-p	TP4A2	VR4A2

Procedure :

a. Connect CH-1 of oscilloscope to TP4A2.
b. Playback a 8mm PAL SP test tape (with 400Hz Audio signal).
c. Adjust VR4A2 so that Center Voltage is DC2.1 ± 0.1Vp-p.

Waveform

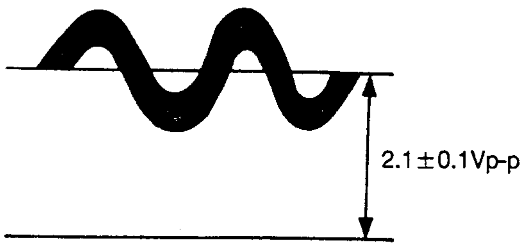


Fig. 3-2-3

2-3-2. FM Deviation Adjustment

MODE	SPECIFICATION	MEASUREMENT POINT	ADJUSTMENT POINT
PLAYBACK (SP)	6±0.5dBm	TP4A1 (Audio Out terminal)	VR4A1

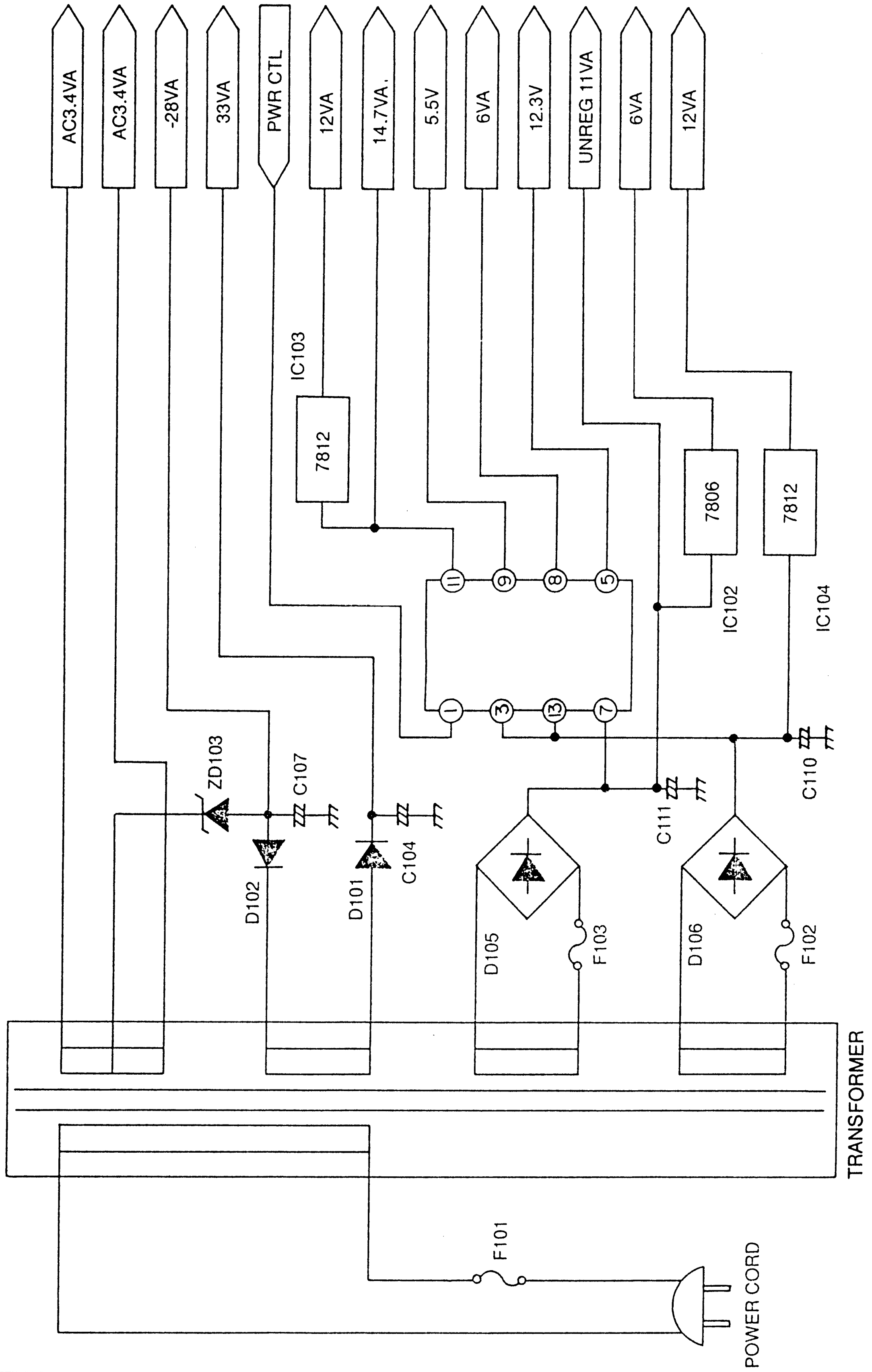
Procedure :

a. Connect (+) terminal of Level Meter to TP4A1 (Audio Out terminal).
b. Playback a 8mm PAL SP test tape (with 1KHz or 400Hz Audio signal).
c. Adjust VR4A1 so that level is 6±0.5dBm.

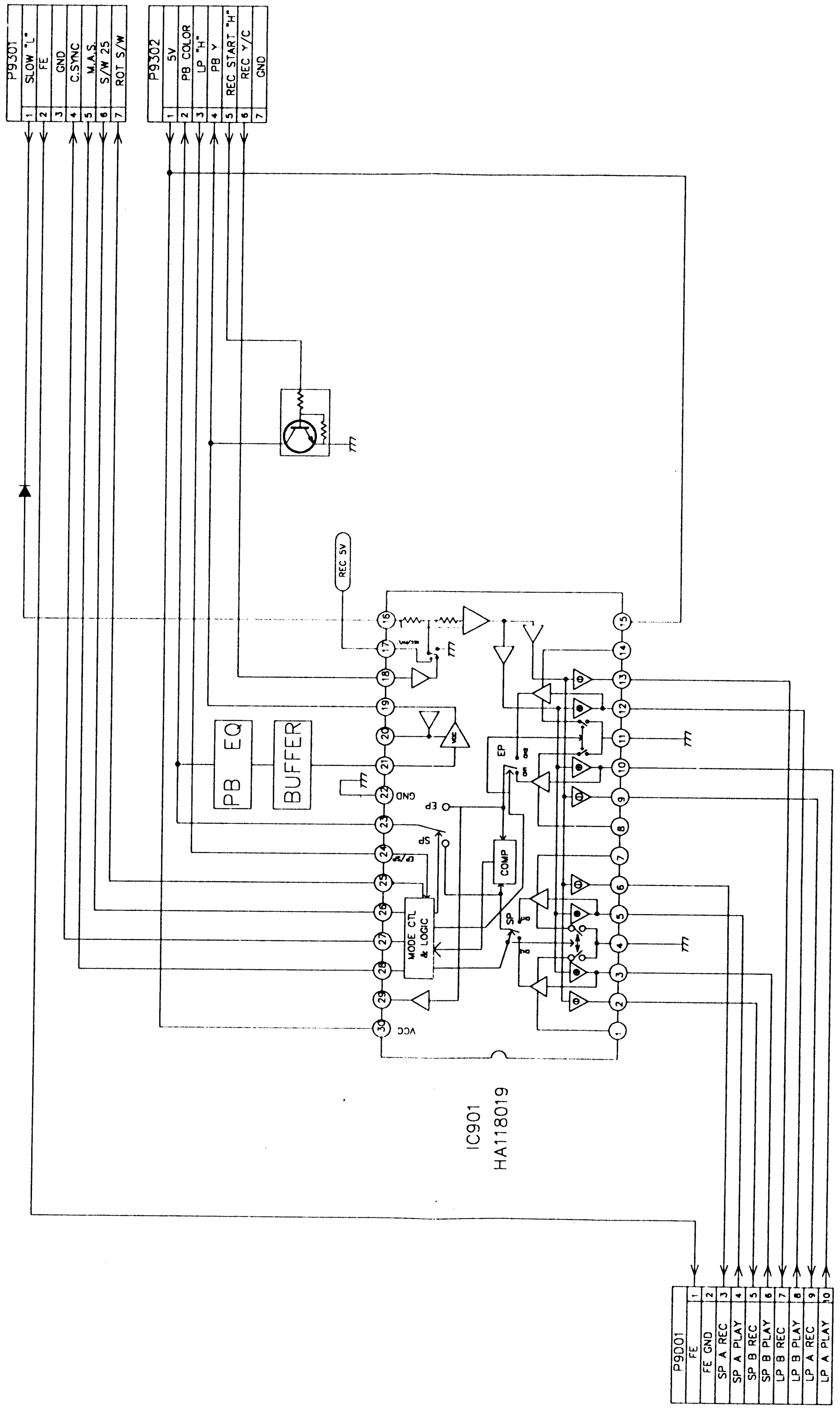
BLOCK DIAGRAMS

1. VHS Block Diagrams

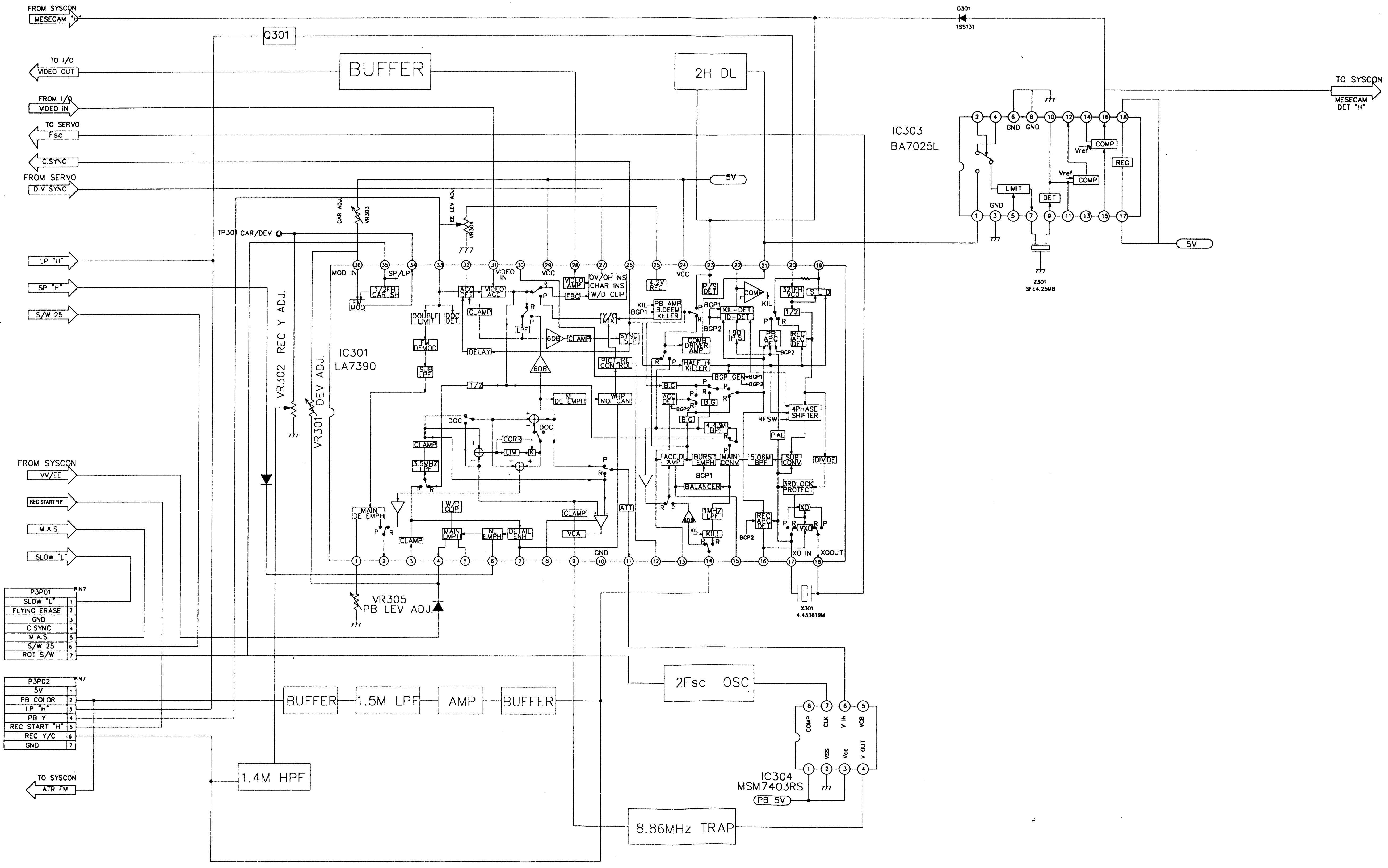
1-1. Power Block Diagram


AC3.4VA
AC3.4VA
-28VA
33VA
PWR CTL
12VA
14.7VA.
5.5V
6VA
12.3V
UNREG 11VA
6VA
12VA
IC103
7812
7806
7812
IC102
IC104
11
9
8
5
1
3
13
7
ZD103
C107
D102
D101
C104
C111
C110
D105
F103
D106
F102
TRANSFORMER
F101
POWER CORD

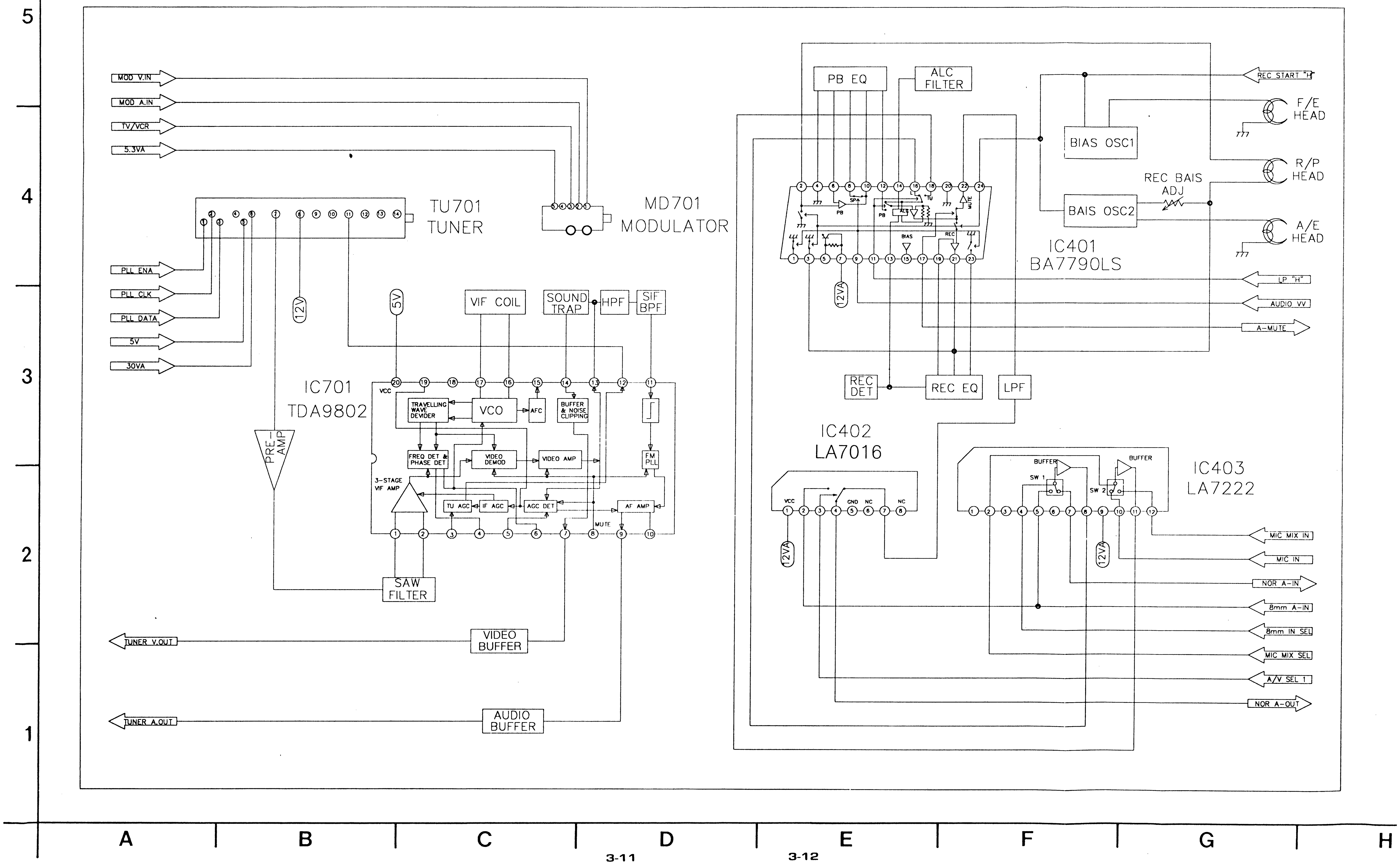
1-2. Pre-Amp Block Diagram


P9301
SLOW "L"
FE
GND
C.SYNC
M.A.S.
S/W 25
ROT S/W
P9302
5V
PB COLOR
LP "H"
PB Y
REC START "H"
REC Y/C
GND
REC 5V
PB EQ
BUFFER
GND
EP
SP
EP/SP
COMP
MODE CTL & LOGIC
VCC
IC901
HA118019
P9D01
FE
FE GND
SP A REC
SP A PLAY
SP B REC
SP B PLAY
LP B REC
LP B PLAY
LP A REC
LP A PLAY

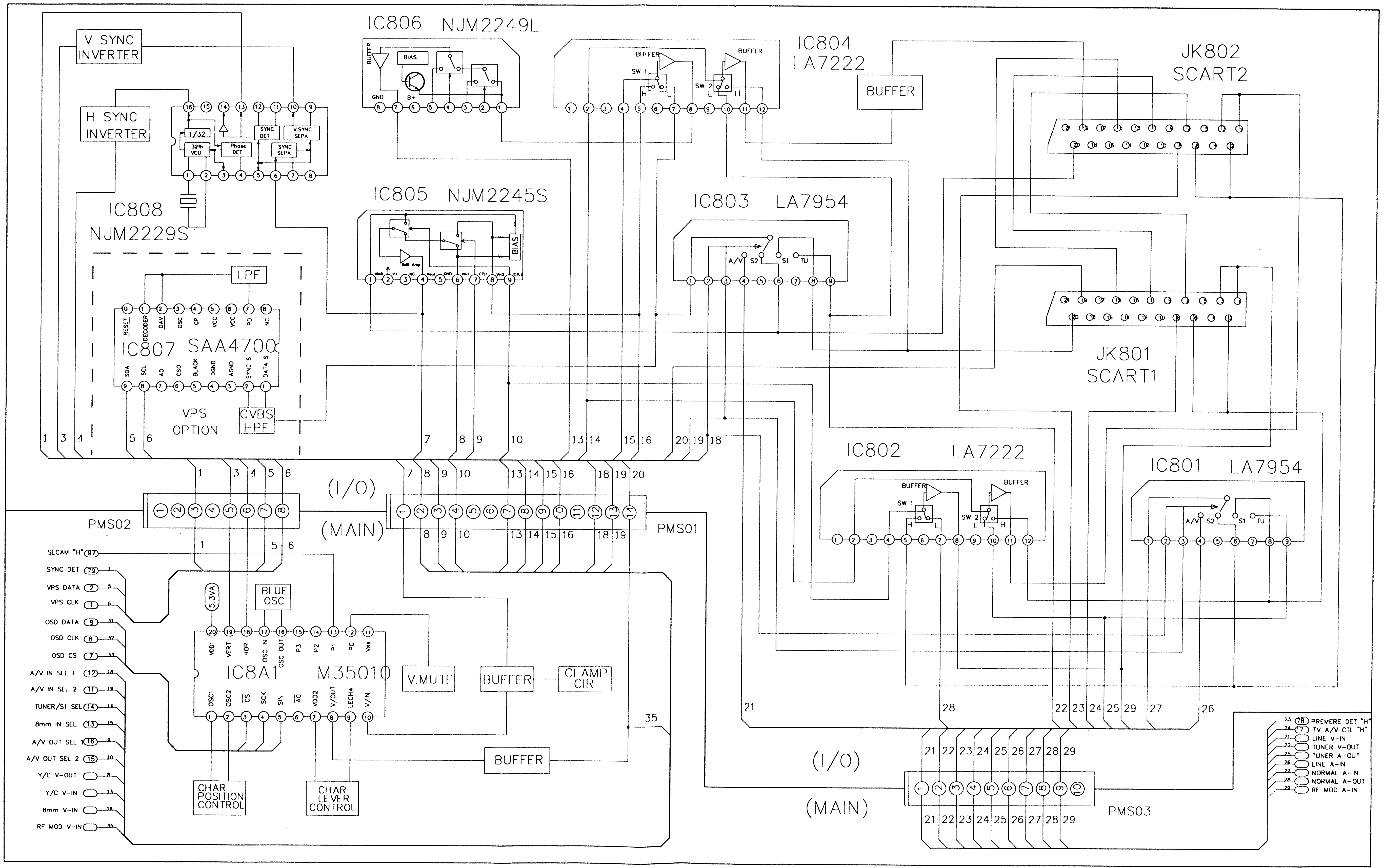
1-3. Y/C Block Diagram


FROM SYSCON
MESECAM "H"
Q301
TO I/O
VIDEO OUT
BUFFER
FROM I/O
VIDEO IN
TO SERVO
Fsc
C.SYNC
FROM SERVO
D.V SYNC
2H DL
5V
D301
1SS131
IC303
BA7025L
GND
GND
Vref
COMP
Vref
COMP
REG
LIMIT
DET
GND
Z301
SFE4.25MB
5V
TO SYSCON
MESECAM DET "H"
CAR ADJ.
VR303
EE LEV ADJ
VR304
TP301 CAR/DEV
LP "H"
SP "H"
S/W 25
VR302 REC Y ADJ.
VR301 DEV ADJ.
IC301
LA7390
MOD IN
SP/LP
1/2FH CAR SH
FM MOD
VIDEO IN
VCC
VCC
AGC DET
VIDEO AGC
CLAMP
DOUBLE LIMIT
DOC DET
FM DEMOD
SUB LPF
LPF
6DB
CLAMP
DELAY
6DB
VIDEO AMP
FBC
QV/QH INS
CHAR INS
W/D CLIP
Y/C MIX
SYNC SEP
PICTURE CONTROL
4.2V REG
PB AMP
B.DEEM
KILLER
KIL
BGP1
P/S DET
COMP
KIL
KIL-DET
ID-DET
BGP1
BGP2
90 P.S.
COMB DRIVER AMP
HALF H KILLER
BGP GEN
BGP1
BGP2
B.G
ACC DET
BGP2
B.G
B.G
4.43M BPF
321FH VCO
S L D
1/2
PB APC DET
REC AFC DET
BGP2
4PHASE SHIFTER
RFSW
PAL
DIVIDE
1/2
NL DE EMPH
WHP NOI CAN
DOC
DOC
CORR
LIM
K
CLAMP
3.5MHZ LPF
ACC.D AMP
BURST EMPH
MAIN CONV
5.06M BPF
SUB CONV
BGP1
BALANCER
3RDLOCK PROTECT
XO
VXO
1MHZ LPF
6DB
KIL
KILL
REC APC DET
BGP2
ATT
MAIN DE EMPH
W/D CLIP
MAIN EMPH
NL EMPH
DETAIL ENH
CLAMP
CLAMP
VCA
GND
XO IN
XOOUT
X301
4.433619M
VR305
PB LEV ADJ.
FROM SYSCON
VV/EE
REC START "H"
M.A.S.
SLOW "L"
P3P01
PIN7
SLOW "L" 1
FLYING ERASE 2
GND 3
C.SYNC 4
M.A.S. 5
S/W 25 6
ROT S/W 7
P3P02
PIN7
5V 1
PB COLOR 2
LP "H" 3
PB Y 4
REC START "H" 5
REC Y/C 6
GND 7
TO SYSCON
ATR FM
BUFFER
1.5M LPF
AMP
BUFFER
1.4M HPF
2Fsc OSC
COMP
CLK
V IN
VCB
VSS
Vcc
V OUT
IC304
MSM7403RS
PB 5V
8.86MHz TRAP
5
4
3
2
1
A
B
C
D
E
F
G

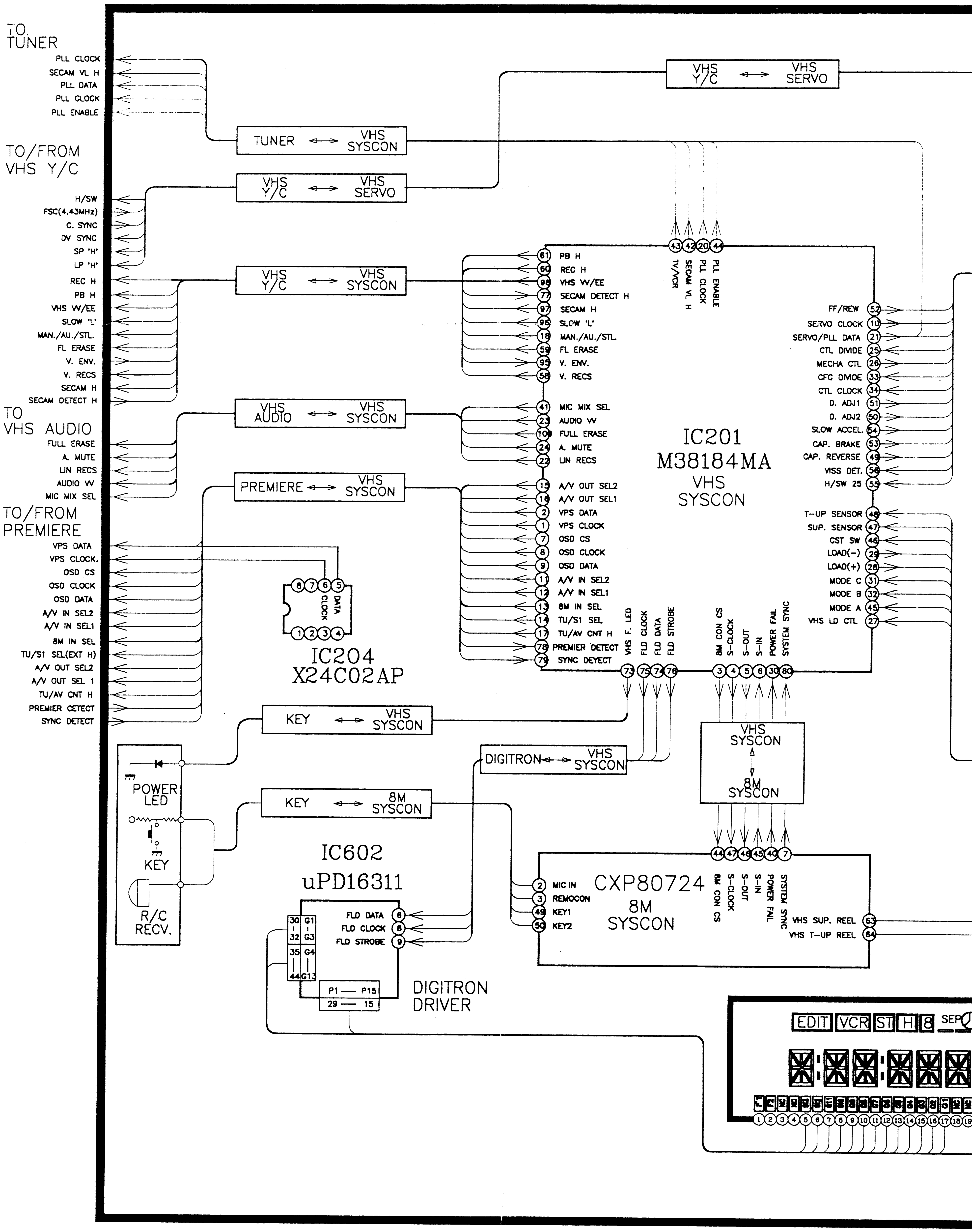
1-4. Tuner/IF & Audio Block Diagram

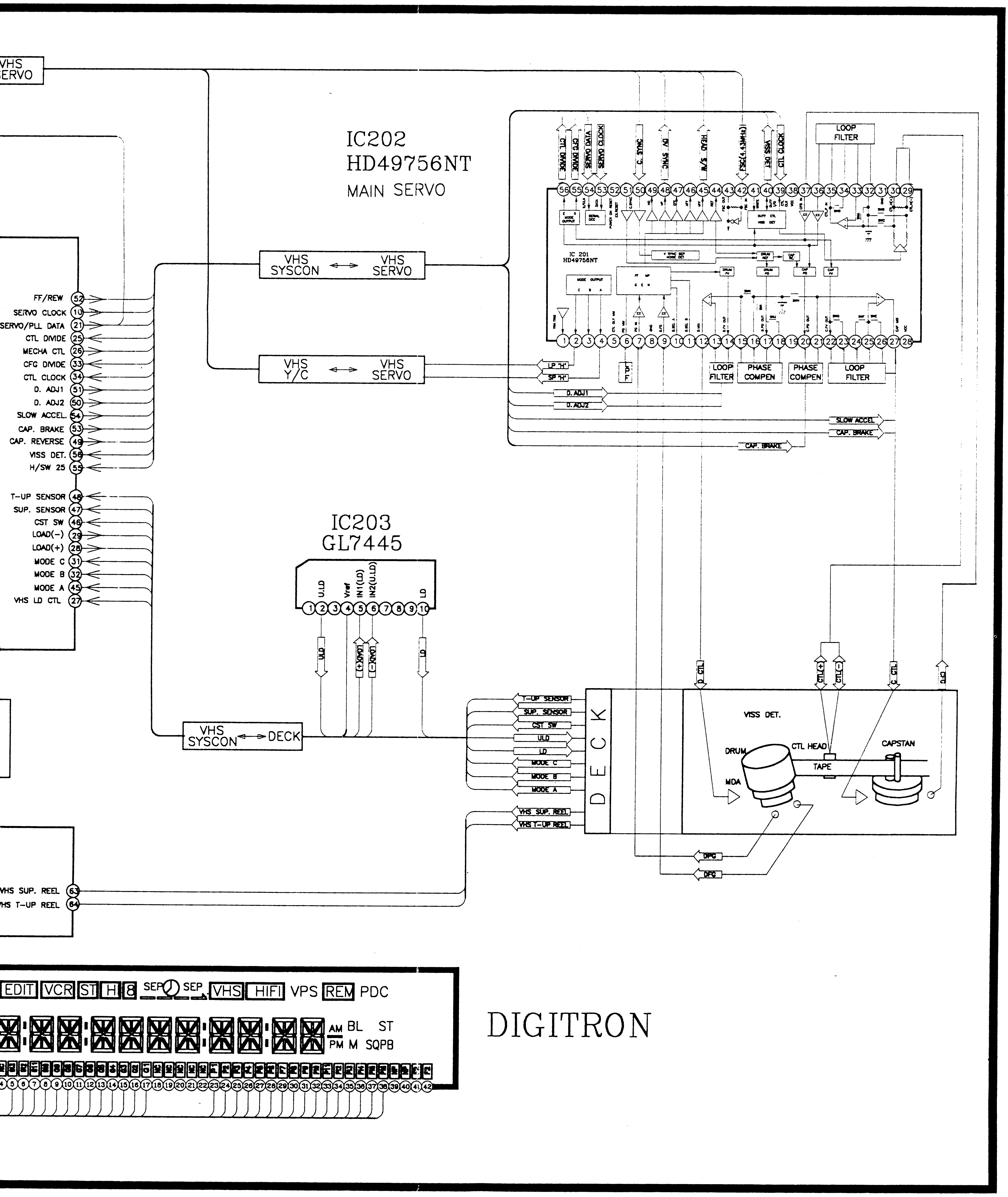

MOD V.IN
MOD A.IN
TV/VCR
5.3VA
TU701
TUNER
MD701
MODULATOR
PLL ENA
PLL CLK
PLL DATA
5V
30VA
12V
5V
PRE-AMP
IC701
TDA9802
VCC
VIF COIL
SOUND TRAP
HPF
SIF BPF
TRAVELLING WAVE DEVIDER
VCO
AFC
BUFFER & NOISE CLIPPING
FREQ DET & PHASE DET
VIDEO DEMOD
VIDEO AMP
FM PLL
3-STAGE VIF AMP
TU AGC
IF AGC
AGC DET
AF AMP
MUTE
SAW FILTER
TUNER V.OUT
VIDEO BUFFER
TUNER A.OUT
AUDIO BUFFER
PB EQ
ALC FILTER
REC START "H"
F/E HEAD
BIAS OSC1
R/P HEAD
REC BAIS ADJ
BAIS OSC2
A/E HEAD
SPA
PB
ALC
TU
MUTE
BIAS
REC
IC401
BA7790LS
12VA
LP "H"
AUDIO VV
A-MUTE
REC DET
REC EQ
LPF
IC402
LA7016
VCC
GND
NC
NC
12VA
BUFFER
SW 1
SW 2
BUFFER
IC403
LA7222
12VA
MIC MIX IN
MIC IN
NOR A-IN
8mm A-IN
8mm IN SEL
MIC MIX SEL
A/V SEL 1
NOR A-OUT
5
4
3
2
1
A
B
C
D
E
F
G
H

1-5. In/Out & Function OSD Block Diagram


IC806 NJM2249L
BUFFER
BIAS
GND
B+
IC804
LA7222
BUFFER
SW 1
SW 2
H
L
JK802
SCART2
V SYNC INVERTER
H SYNC INVERTER
1/32
32fH VCO
Phase DET
SYNC DET
V.SYNC SEPA
SYNC SEPA
IC808
NJM2229S
IC805 NJM2245S
6dB Amp
BIAS
IC803 LA7954
A/V
S2
S1
TU
LPF
RESET
DECODER
DAV
OSC
CP
VCC
PD
NC
IC807 SAA4700
SDA
SCL
AO
CSO
BLACK
DGND
AGND
SYNC S
DATA S
VPS OPTION
CVBS HPF
JK801
SCART1
IC802 LA7222
IC801 LA7954
(I/O)
(MAIN)
PMS02
PMS01
PMS03
SECAM "H" 97
SYNC DET 79
VPS DATA 2
VPS CLK 1
OSD DATA 9
OSD CLK 8
OSD CS 7
A/V IN SEL 1 12
A/V IN SEL 2 11
TUNER/S1 SEL 14
8mm IN SEL 13
A/V OUT SEL 1 16
A/V OUT SEL 2 15
Y/C V-OUT
Y/C V-IN
8mm V-IN
RF MOD V-IN
5.3VA
BLUE OSC
VDD1
VERT
HOR
OSC IN
OSC OUT
P3
P2
P1
PD
Vss
IC8A1 M35010
OSC1
OSC2
CS
SCK
SIN
AC
VDD2
V/OUT
LECHA
V/IN
V.MUTE
BUFFER
CLAMP CIR
BUFFER
CHAR POSITION CONTROL
CHAR LEVER CONTROL
35
(I/O)
(MAIN)
21 22 23 24 25 26 27 28 29
78 PREMERE DET "H"
17 TV A/V CTL "H"
LINE V-IN
TUNER V-OUT
TUNER A-OUT
LINE A-IN
NORMAL A-IN
NORMAL A-OUT
RF MOD A-IN
5
4
3
2
1
A
B
C
D
E
F
G
H

1-6. Main System (Servo, Syscon, Timer) Block Diagram

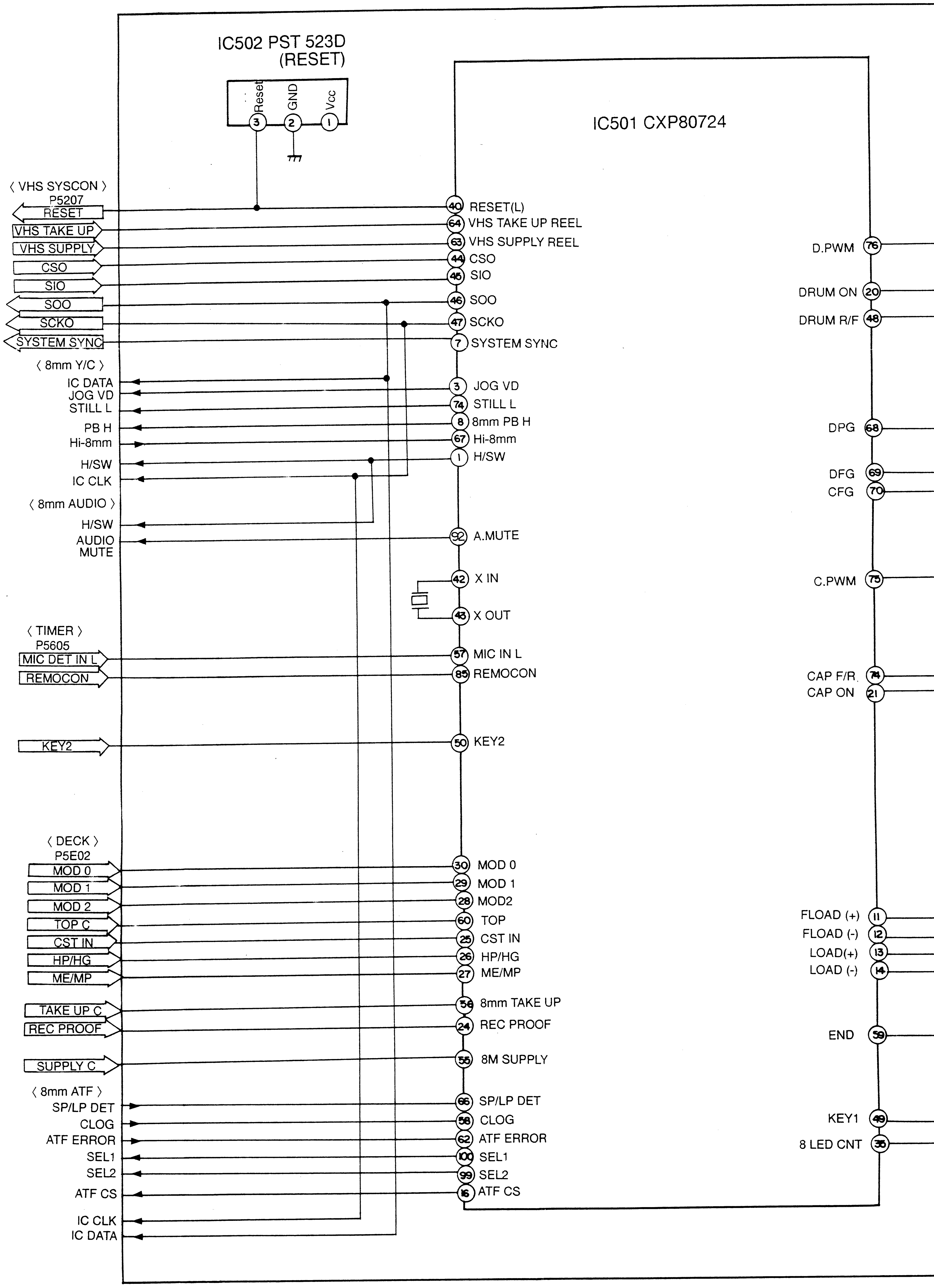

TO TUNER
PLL CLOCK
SECAM VL H
PLL DATA
PLL CLOCK
PLL ENABLE
TO/FROM VHS Y/C
H/SW
FSC(4.43MHz)
C. SYNC
DV SYNC
SP 'H'
LP 'H'
REC H
PB H
VHS W/EE
SLOW 'L'
MAN./AU./STL.
FL ERASE
V. ENV.
V. RECS
SECAM H
SECAM DETECT H
TO VHS AUDIO
FULL ERASE
A. MUTE
LIN RECS
AUDIO W
MIC MIX SEL
TO/FROM PREMIERE
VPS DATA
VPS CLOCK
OSD CS
OSD CLOCK
OSD DATA
A/V IN SEL2
A/V IN SEL1
8M IN SEL
TU/S1 SEL(EXT H)
A/V OUT SEL2
A/V OUT SEL 1
TU/AV CNT H
PREMIER CETECT
SYNC DETECT
TUNER ↔ VHS SYSCON
VHS Y/C ↔ VHS SERVO
VHS Y/C ↔ VHS SYSCON
VHS AUDIO ↔ VHS SYSCON
PREMIERE ↔ VHS SYSCON
KEY ↔ VHS SYSCON
KEY ↔ 8M SYSCON
DIGITRON ↔ VHS SYSCON
VHS SYSCON ↔ 8M SYSCON
POWER LED
KEY
R/C RECV.
IC204
X24C02AP
DATA
CLOCK
IC201
M38184MA
VHS SYSCON
43 TV/VCR
42 SECAM VL H
20 PLL CLOCK
44 PLL ENABLE
61 PB H
60 REC H
98 VHS W/EE
77 SECAM DETECT H
97 SECAM H
96 SLOW 'L'
18 MAN./AU./STL.
59 FL ERASE
95 V. ENV.
58 V. RECS
41 MIC MIX SEL
23 AUDIO W
100 FULL ERASE
24 A. MUTE
22 LIN RECS
15 A/V OUT SEL2
16 A/V OUT SEL1
2 VPS DATA
1 VPS CLOCK
7 OSD CS
8 OSD CLOCK
9 OSD DATA
11 A/V IN SEL2
12 A/V IN SEL1
13 8M IN SEL
14 TU/S1 SEL
17 TU/AV CNT H
78 PREMIER DETECT
79 SYNC DEYECT
73 VHS F. LED
75 FLD CLOCK
74 FLD DATA
76 FLD STROBE
3 8M CON CS
4 S-CLOCK
5 S-OUT
6 S-IN
30 POWER FAIL
80 SYSTEM SYNC
FF/REW 52
SERVO CLOCK 10
SERVO/PLL DATA 21
CTL DIVIDE 25
MECHA CTL 26
CFG DIVIDE 33
CTL CLOCK 34
D. ADJ1 51
D. ADJ2 50
SLOW ACCEL 54
CAP. BRAKE 53
CAP. REVERSE 49
VISS DET. 56
H/SW 25 55
T-UP SENSOR 48
SUP. SENSOR 47
CST SW 46
LOAD(-) 29
LOAD(+) 28
MODE C 31
MODE B 32
MODE A 45
VHS LD CTL 27
IC602
uPD16311
FLD DATA 6
FLD CLOCK 8
FLD STROBE 9
30 G1
32 G3
35 G4
44 G13
P1 — P15
29 — 15
DIGITRON DRIVER
CXP80724
8M SYSCON
2 MIC IN
3 REMOCON
49 KEY1
50 KEY2
44 8M CON CS
47 S-CLOCK
46 S-OUT
45 S-IN
40 POWER FAIL
7 SYSTEM SYNC
VHS SUP. REEL 63
VHS T-UP REEL 64
EDIT
VCR
ST
H
8
SEP
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
8
7
6
5
4
3
2
1
A
B
C
D
E

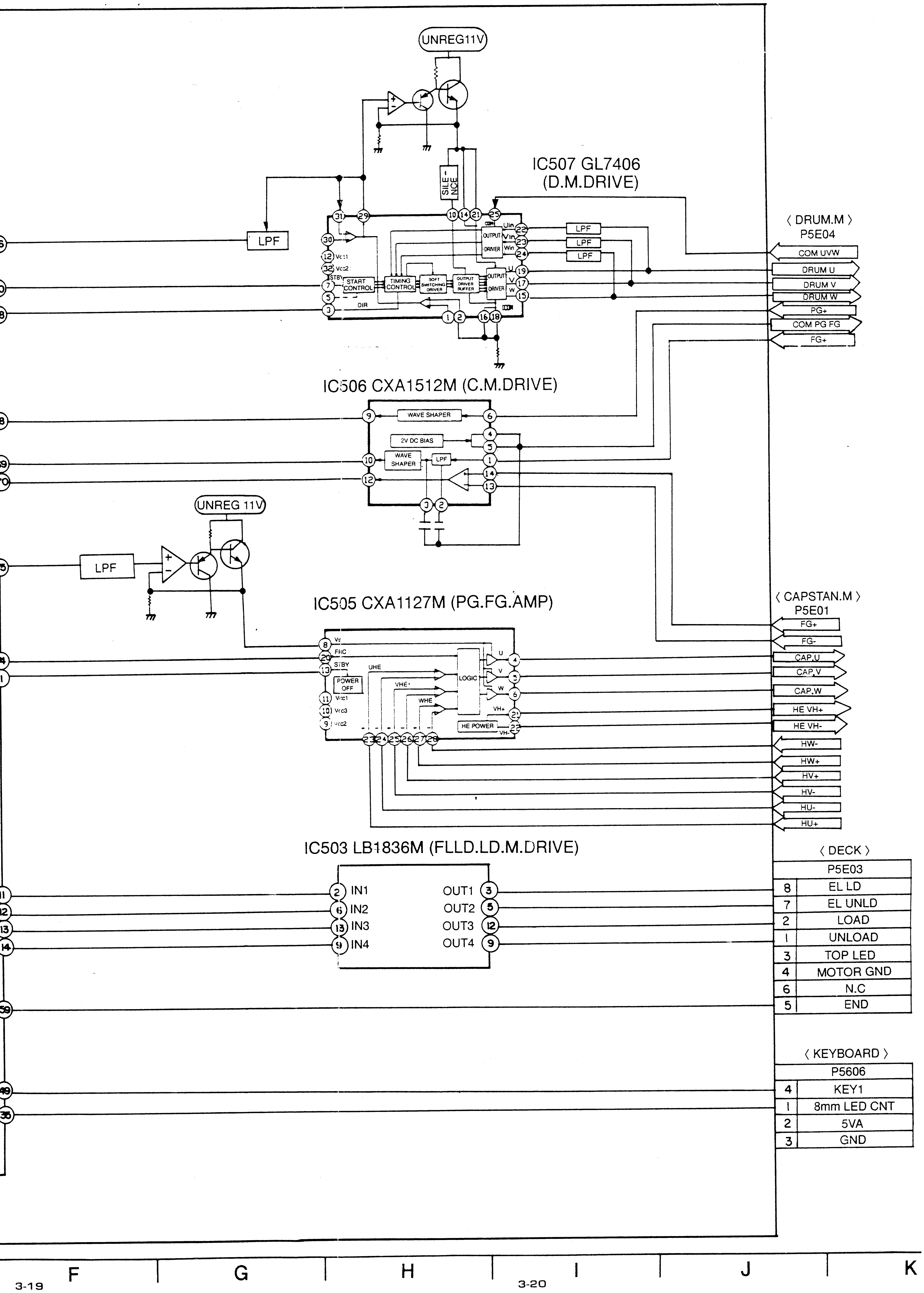


VHS SERVO
IC202
HD49756NT
MAIN SERVO
CTL DIVIDE
DFG DIVIDE
SERVO DATA
SERVO CLOCK
C. SYNC
DV SYNC
H/S/W
HEAD
FSC(4.43MHz)
VISS DET
CTL CLOCK
LOOP FILTER
IC 201
HD49756NT
VHS SYSCON
VHS SERVO
VHS Y/C
VHS SERVO
LP "H"
SP "H"
LOOP FILTER
PHASE COMPEN
PHASE COMPEN
LOOP FILTER
D. ADJ1
D. ADJ2
SLOW ACCEL
CAP. BRAKE
CAP. BRAKE
FF/REW 52
SERVO CLOCK 10
SERVO/PLL DATA 21
CTL DIVIDE 25
MECHA CTL 26
CFG DIVIDE 33
CTL CLOCK 34
D. ADJ1 51
D. ADJ2 50
SLOW ACCEL 54
CAP. BRAKE 53
CAP. REVERSE 49
VISS DET. 56
H/SW 25 55
T-UP SENSOR 48
SUP. SENSOR 47
CST SW 46
LOAD(-) 29
LOAD(+) 28
MODE C 31
MODE B 32
MODE A 45
VHS LD CTL 27
IC203
GL7445
ULD
Vref
IN1(LD)
IN2(U.LD)
LD
ULD
LOAD(+)
LOAD(-)
LD
VHS SYSCON
DECK
T-UP SENSOR
SUP. SENSOR
CST SW
ULD
LD
MODE C
MODE B
MODE A
VHS SUP. REEL
VHS T-UP REEL
DECK
D CTL
CTL(+)
CTL(-)
C CTL
CFG
VISS DET.
DRUM
CTL HEAD
CAPSTAN
TAPE
MDA
DPG
DFG
VHS SUP. REEL 63
VHS T-UP REEL 64
EDIT VCR ST H 8 SEP SEP VHS HIFI VPS REM PDC
AM BL ST
PM M SQPB
DIGITRON

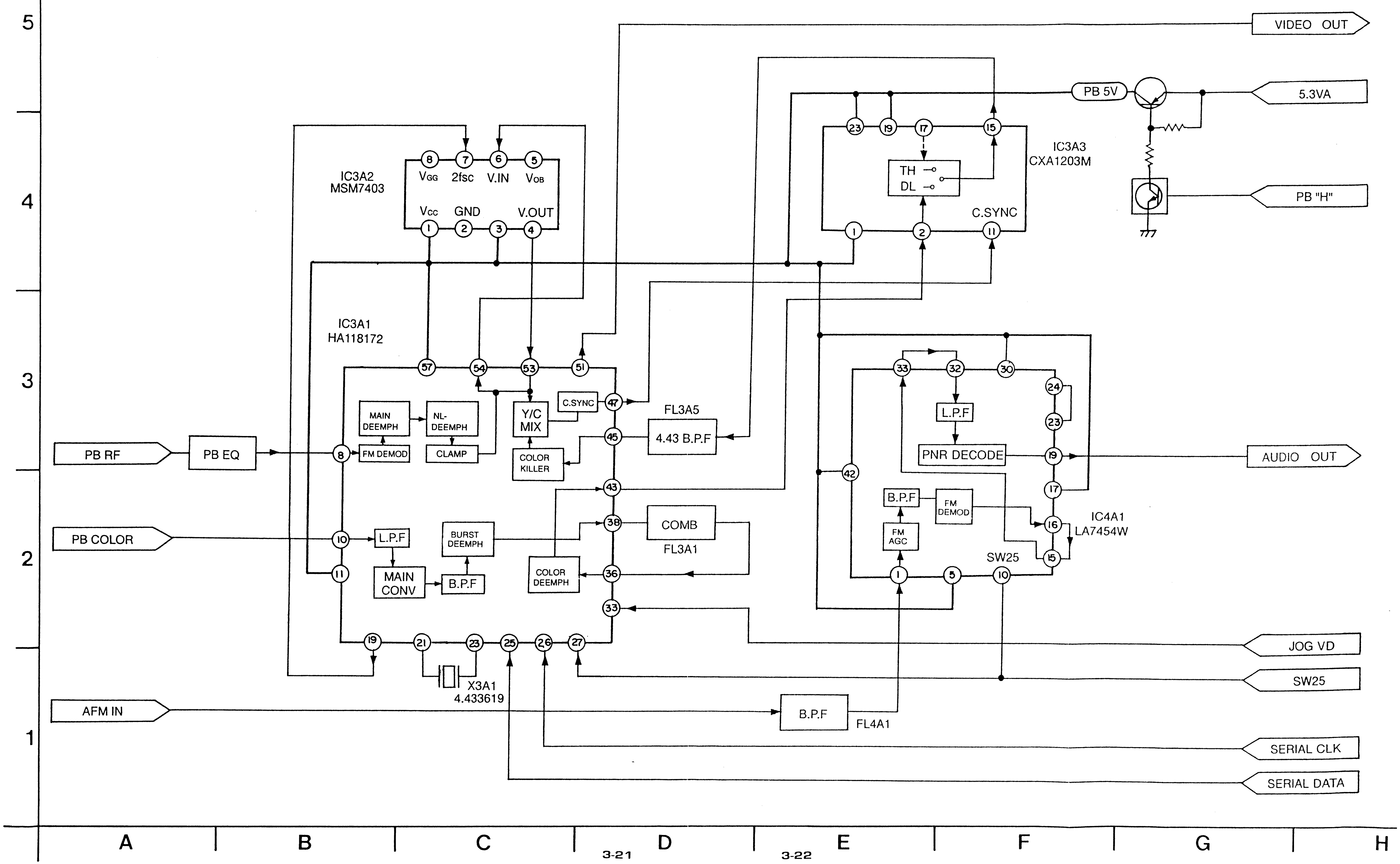
2. 8mm Block Diagrams

2-1. Main System (Servo, Syscon) Block Diagram

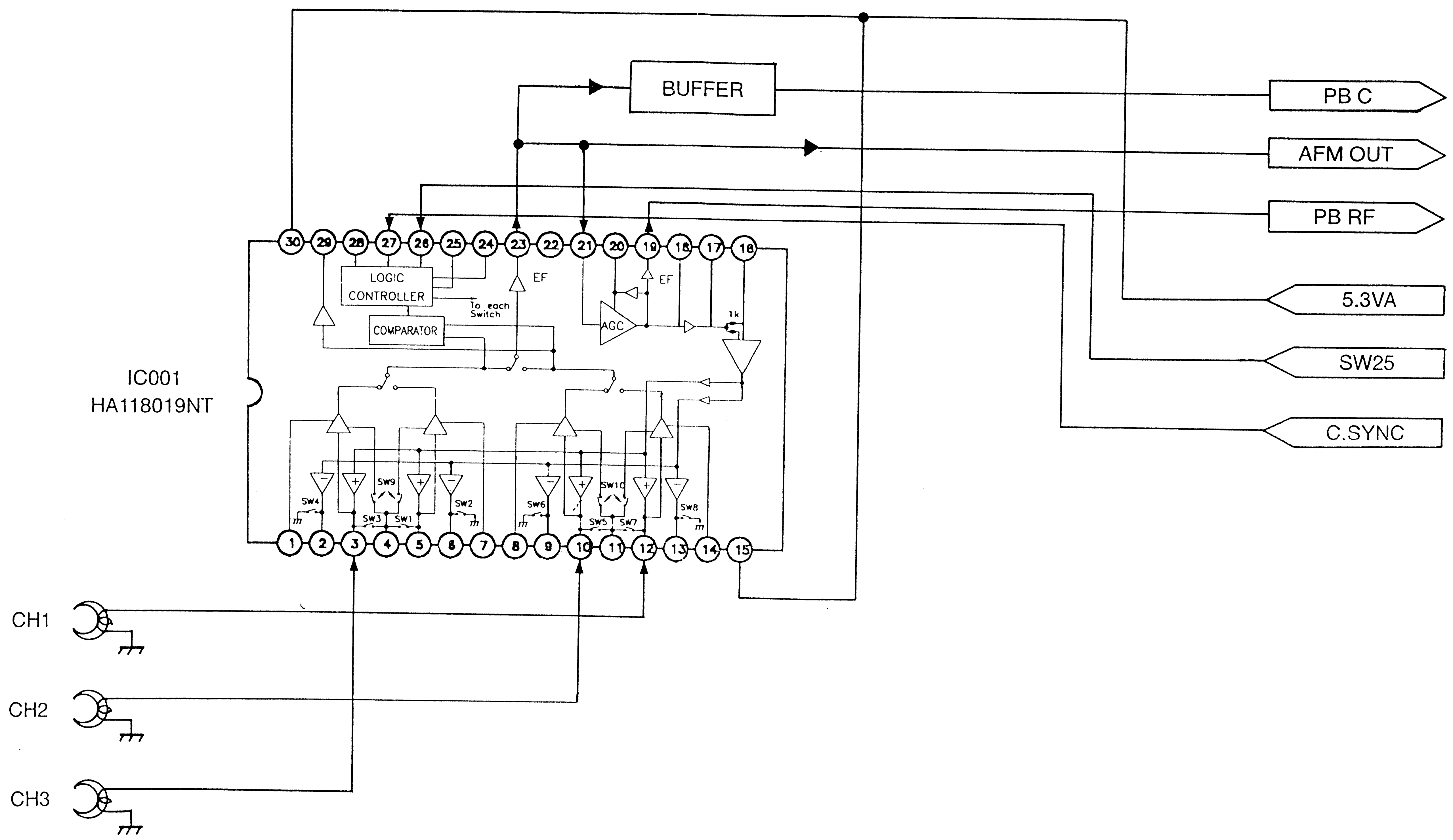

IC502 PST 523D
(RESET)
Reset
GND
Vcc
3
2
1
IC501 CXP80724
〈 VHS SYSCON 〉
P5207
RESET
VHS TAKE UP
VHS SUPPLY
CSO
SIO
SOO
SCKO
SYSTEM SYNC
〈 8mm Y/C 〉
IC DATA
JOG VD
STILL L
PB H
Hi-8mm
H/SW
IC CLK
〈 8mm AUDIO 〉
H/SW
AUDIO MUTE
〈 TIMER 〉
P5605
MIC DET IN L
REMOCON
KEY2
〈 DECK 〉
P5E02
MOD 0
MOD 1
MOD 2
TOP C
CST IN
HP/HG
ME/MP
TAKE UP C
REC PROOF
SUPPLY C
〈 8mm ATF 〉
SP/LP DET
CLOG
ATF ERROR
SEL1
SEL2
ATF CS
IC CLK
IC DATA
40 RESET(L)
64 VHS TAKE UP REEL
63 VHS SUPPLY REEL
44 CSO
45 SIO
46 SOO
47 SCKO
7 SYSTEM SYNC
3 JOG VD
74 STILL L
8 8mm PB H
67 Hi-8mm
1 H/SW
92 A.MUTE
42 X IN
43 X OUT
57 MIC IN L
85 REMOCON
50 KEY2
30 MOD 0
29 MOD 1
28 MOD2
60 TOP
25 CST IN
26 HP/HG
27 ME/MP
56 8mm TAKE UP
24 REC PROOF
55 8M SUPPLY
66 SP/LP DET
58 CLOG
62 ATF ERROR
100 SEL1
99 SEL2
16 ATF CS
D.PWM 76
DRUM ON 20
DRUM R/F 48
DPG 68
DFG 69
CFG 70
C.PWM 75
CAP F/R 74
CAP ON 21
FLOAD (+) 11
FLOAD (-) 12
LOAD(+) 13
LOAD (-) 14
END 59
KEY1 49
8 LED CNT 35


UNREG11V
SILE-NCE
IC507 GL7406
(D.M.DRIVE)
LPF
Vcc1
Vcc2
STBY
START CONTROL
TIMING CONTROL
SOFT SWITCHING DRIVER
OUTPUT DRIVER BUFFER
OUTPUT DRIVER
COM
Uin
Vin
Win
U
V
W
DIR
(DRUM.M)
P5E04
COM UVW
DRUM U
DRUM V
DRUM W
PG+
COM PG FG
FG+
IC506 CXA1512M (C.M.DRIVE)
WAVE SHAPER
2V DC BIAS
WAVE SHAPER
LPF
UNREG 11V
LPF
IC505 CXA1127M (PG.FG.AMP)
Vs
FRC
STBY
POWER OFF
Vcc1
Vcc3
Vcc2
UHE
VHE
WHE
LOGIC
HE POWER
VH+
VH-
(CAPSTAN.M)
P5E01
FG+
FG-
CAP.U
CAP.V
CAP.W
HE VH+
HE VH-
HW-
HW+
HV+
HV-
HU-
HU+
IC503 LB1836M (FLLD.LD.M.DRIVE)
IN1
IN2
IN3
IN4
OUT1
OUT2
OUT3
OUT4
(DECK)
P5E03
8 EL LD
7 EL UNLD
2 LOAD
1 UNLOAD
3 TOP LED
4 MOTOR GND
6 N.C
5 END
(KEYBOARD)
P5606
4 KEY1
1 8mm LED CNT
2 5VA
3 GND
F
G
H
I
J
K

2-2. Main Analog (Y/C, Audio) Block Diagram


VIDEO OUT
PB 5V
5.3VA
PB "H"
IC3A3
CXA1203M
TH
DL
C.SYNC
IC3A2
MSM7403
VGG
2fsc
V.IN
VOB
Vcc
GND
V.OUT
IC3A1
HA118172
MAIN DEEMPH
NL-DEEMPH
FM DEMOD
CLAMP
Y/C MIX
C.SYNC
COLOR KILLER
FL3A5
4.43 B.P.F
COMB
FL3A1
L.P.F
MAIN CONV
BURST DEEMPH
B.P.F
COLOR DEEMPH
X3A1
4.433619
PB RF
PB EQ
PB COLOR
AFM IN
B.P.F
FL4A1
L.P.F
PNR DECODE
AUDIO OUT
B.P.F
FM DEMOD
FM AGC
IC4A1
LA7454W
SW25
JOG VD
SW25
SERIAL CLK
SERIAL DATA
5
4
3
2
1
A
B
C
D
E
F
G
H

2-3. Pre-Amp Block Diagram

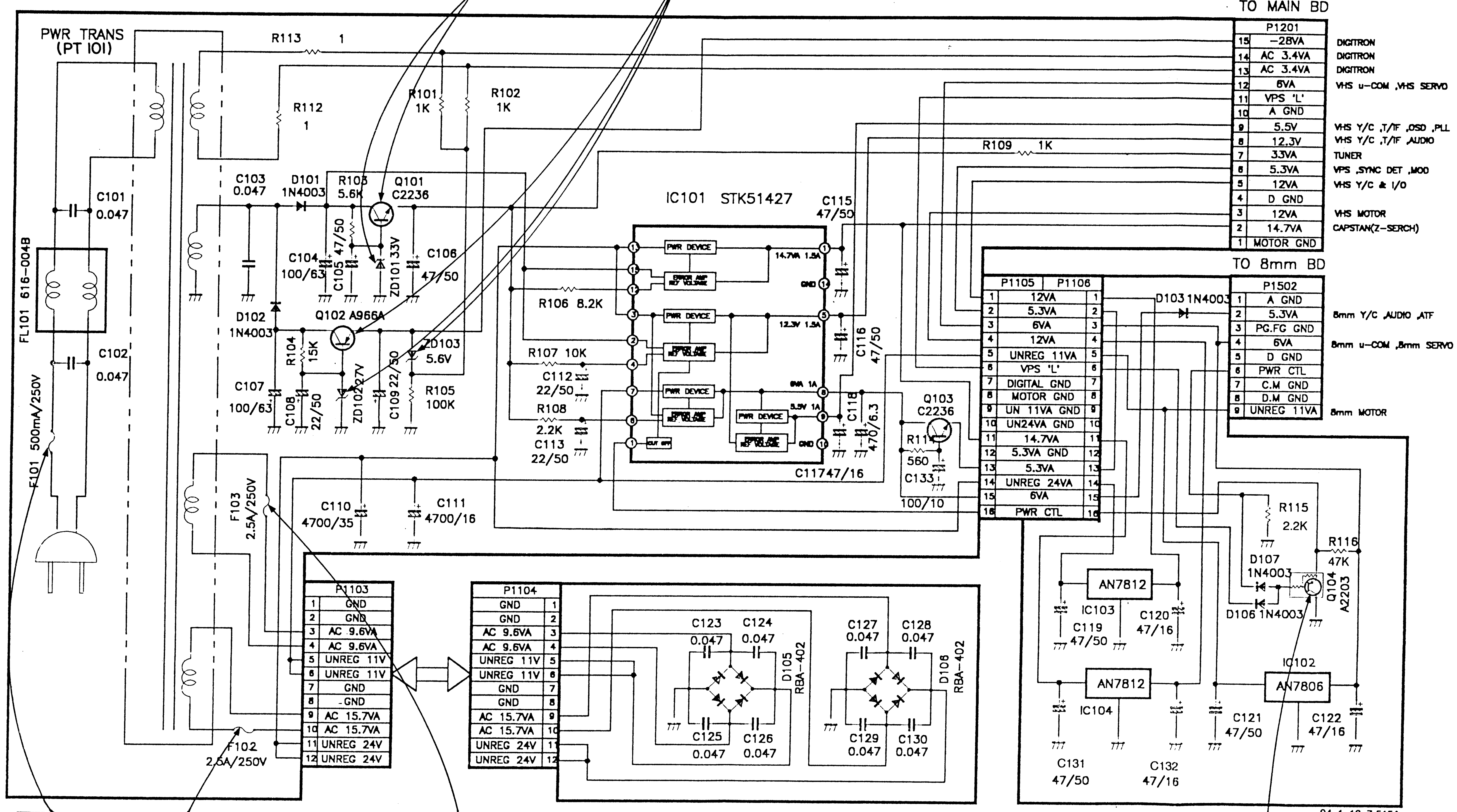

BUFFER
PB C
AFM OUT
PB RF
5.3VA
SW25
C.SYNC
IC001
HA118019NT
LOGIC CONTROLLER
To each Switch
COMPARATOR
EF
EF
AGC
1k
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
CH1
CH2
CH3
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

5
4
3
2
1
A
B
C
D
E
F
G

CIRCUIT DIAGRAMS

1. VHS Circuit Diagrams

1-1. Power Circuit Diagram


PWR TRANS (PT 101)
R113 1
R112 1
R101 1K
R102 1K
FL101 616-004B
C101 0.047
C102 0.047
F101 500mA/250V
C103 0.047
D101 1N4003
R103 5.6K
Q101 C2236
C104 100/63
C105 47/50
ZD101 33V
C106 47/50
D102 1N4003
Q102 A966A
R104 15K
ZD103 5.6V
R105 100K
C107 100/63
C108 22/50
ZD102 27V
C109 22/50
IC101 STK51427
C115 47/50
R106 8.2K
R107 10K
C112 22/50
R108 2.2K
C113 22/50
PWR DEVICE
ERROR AMP REF VOLTAGE
CUT OFF
14.7VA 1.5A
12.3V 1.5A
6VA 1A
5.5V 1A
GND
C116 47/50
C118 470/6.3
C117 47/16
Q103 C2236
R114 560
C133 100/10
R109 1K
C110 4700/35
C111 4700/16
F103 2.5A/250V
F102 2.5A/250V
TO MAIN BD
P1201
15 -28VA DIGITRON
14 AC 3.4VA DIGITRON
13 AC 3.4VA DIGITRON
12 6VA VHS u-COM ,VHS SERVO
11 VPS 'L'
10 A GND
9 5.5V VHS Y/C ,T/IF ,OSD ,PLL
8 12.3V VHS Y/C ,T/IF ,AUDIO
7 33VA TUNER
6 5.3VA VPS ,SYNC DET ,MOD
5 12VA VHS Y/C & I/O
4 D GND
3 12VA VHS MOTOR
2 14.7VA CAPSTAN(Z-SERCH)
1 MOTOR GND
TO 8mm BD
P1105 P1106
1 12VA
2 5.3VA
3 6VA
4 12VA
5 UNREG 11VA
6 VPS 'L'
7 DIGITAL GND
8 MOTOR GND
9 UN 11VA GND
10 UN24VA GND
11 14.7VA
12 5.3VA GND
13 5.3VA
14 UNREG 24VA
15 6VA
16 PWR CTL
D103 1N4003
P1502
1 A GND
2 5.3VA 8mm Y/C ,AUDIO ,ATF
3 PG.FG GND
4 6VA 8mm u-COM ,8mm SERVO
5 D GND
6 PWR CTL
7 C.M GND
8 D.M GND
9 UNREG 11VA 8mm MOTOR
P1103
1 GND
2 GND
3 AC 9.6VA
4 AC 9.6VA
5 UNREG 11V
6 UNREG 11V
7 GND
8 GND
9 AC 15.7VA
10 AC 15.7VA
11 UNREG 24V
12 UNREG 24V
P1104
GND
GND
AC 9.6VA
AC 9.6VA
UNREG 11V
UNREG 11V
GND
GND
AC 15.7VA
AC 15.7VA
UNREG 24V
UNREG 24V
C123 0.047
C124 0.047
C125 0.047
C126 0.047
D105 RBA-402
C127 0.047
C128 0.047
C129 0.047
C130 0.047
D106 RBA-402
R115 2.2K
R116 47K
D107 1N4003
D106 1N4003
Q104 A2203
AN7812 IC103
C119 47/50
C120 47/16
AN7812 IC104
C131 47/50
C132 47/16
IC102 AN7806
C121 47/50
C122 47/16
94. 1. 13. 7-515A
5
4
3
2
1
A
B
C
D
E
F
G
H

Q101, ZD101 are defective.
No 33VA Power.

Q102, ZD102, ZD103 are defective.
Digitron Character misoperate.

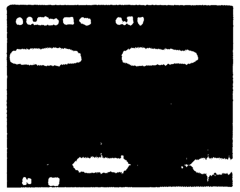
F101 Open
No Power.

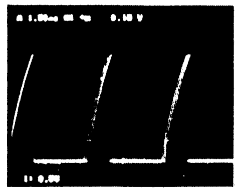
F102 Open.
No 14.7VA, 12VA, 12.3V.

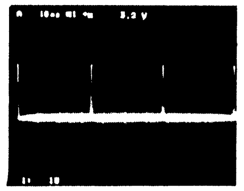
F103 Open.
No 6VA & 5.5V.

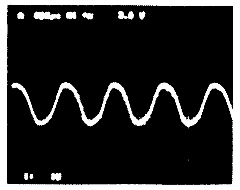
Q104 is defective.
Power ON/OFF is failed.

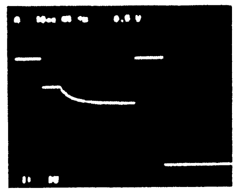
* Servo Oscilloscope Waveform

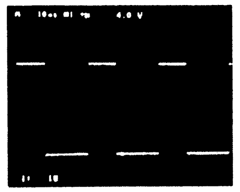
①

IC201 Pin①
TRK TRIGGER

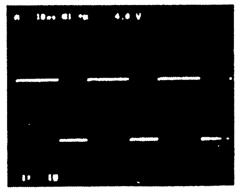
②

IC201 Pin⑥
PG M.M

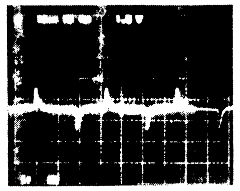
③

IC201 Pin⑦
DRUM P.G

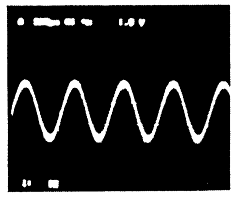
④

IC201 Pin⑨
DRUM F.G

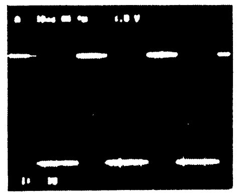
⑤

IC201 Pin㉗
SLOW CONTROL

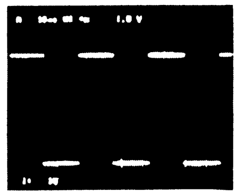
⑥

IC201 Pin㉙
REC CTL

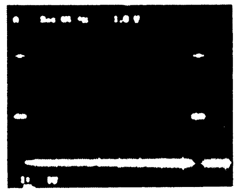
⑦

IC201 Pin㉚
REC CTL

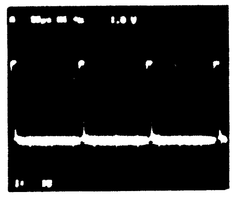
⑧

IC201 Pin㉟
REC CTL

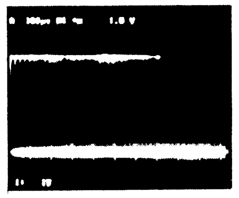
⑨

IC201 Pin㊲
CAPSTAN F.G

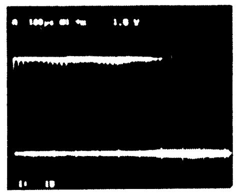
⑩

IC201 Pin㊴
CLOCK CTL

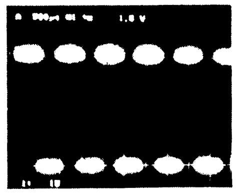
⑪

IC201 Pin㊺
SW25

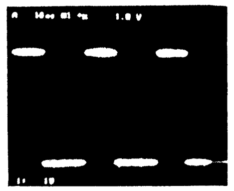
⑫

IC201 Pin㊽
DV. SYNC

⑬

IC201 Pin㊿
COMPOSITE SYNC

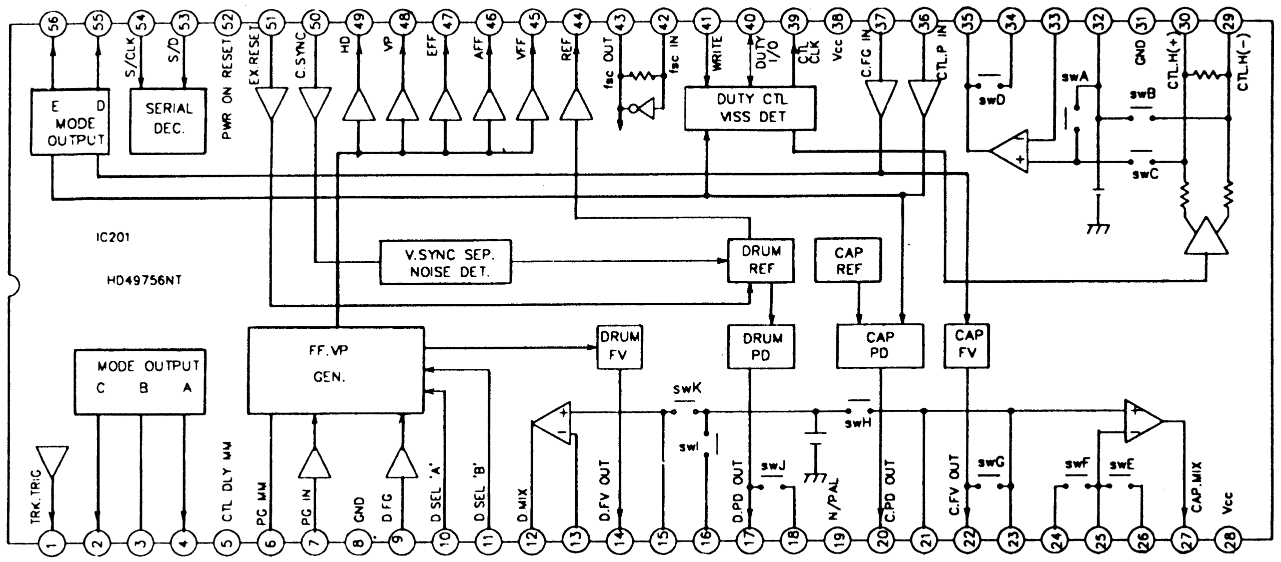
⑭

IC201 Pin(53)
SERIAL DATA

⑮

IC201 Pin(54)
SERIAL CLOCK

⑯

IC201 Pin(55)
CFG C.D

⑰

IC201 Pin(56)
CTL C.D

* Servo IC and TR Voltage Sheet
IC 201(HD49756NT)


56
55
54
53
52
51
50
49
48
47
46
45
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
S/CLK
S/D
PWR ON RESET
EX.RESET
C.SYNC
HD
VP
EFF
AFF
VFF
REF
fsc OUT
fsc IN
WRITE
DUTY I/O
CTL CLK
Vcc
C.FG IN
CTL.P IN
GND
CTL.H(+)
CTL.H(−)
E D MODE OUTPUT
SERIAL DEC.
DUTY CTL VISS DET
swA
swB
swC
swD
IC201
HD49756NT
V.SYNC SEP. NOISE DET.
DRUM REF
CAP REF
FF.VP GEN.
DRUM FV
DRUM PD
CAP PD
CAP FV
MODE OUTPUT C B A
swK
swI
swH
swJ
swG
swF
swE
TRK.TRIG
CTL DLY MM
PG MM
PG IN
GND
D.FG
D.SEL 'A'
D.SEL 'B'
D.MIX
D.FV OUT
D.PD OUT
N/PAL
C.PD OUT
C.FV OUT
CAP.MIX
Vcc
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

RECORD MODE	5	2.5	0.7	1.1	3.8	5	0.9	0	0	2.5	0	2.5	2.6	2.6	2.6	0	5	3.6	5	2.4	2.5	2.5	2.5	2.5	2.5	0	2.7	2.1
PLAYBACK MODE	2	2.5	0.7	1.1	3.8	5	0.2	0	0	2.5	2.5	2.5	2.6	2.6	2.6	0	5	2	5	2.4	2.5	2.5	2.5	2.5	2.5	0	2.5	2.5

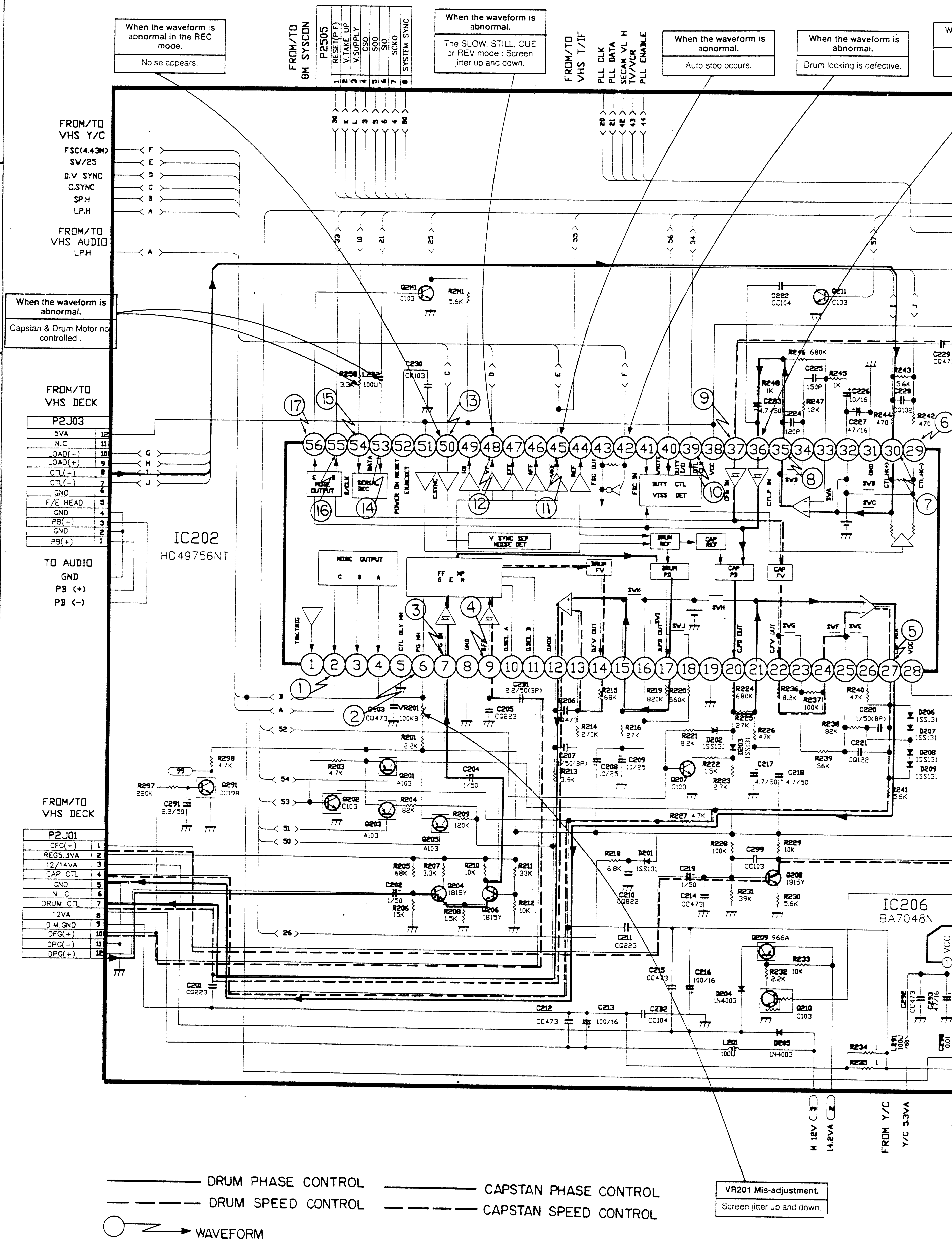
PLAYBACK MODE	3.6	0	0	5	0	0.2	2.1	0	2.7	2.7	2.7	1.4	2.5	2.5	2.5	2.5	2.5	2.4	0	2.5	2.5	2.5	2.5	2.5	2.5	2.7	2.7	5
RECORD MODE	3.6	0	0	5	0	0.2	2.1	0	2.7	2.7	2.7	1.4	2.5	2.5	2.5	2.5	2.5	2.4	0	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.7	5

*SERVO TR Voltage Sheet

(PB/REC Mode)

PORT / TR. NO	EMITTER	COLLECTOR	BASE
Q201	5/5	2.2/2.2	5/5
Q202	0/0	2.2/2.2	0/0
Q203	5/5	1.2/1.2	5/5
Q205	5/5	1.2/1.2	5/5
Q207	0/0	5/5	0/0
Q211	0/0	0/0	0/0

1-2. Main System (Servo, Syscon) Circuit Diagram



When the waveform is abnormal in the REC mode.
Noise appears.

When the waveform is abnormal.
The SLOW, STILL, CUE or REV mode : Screen jitter up and down.

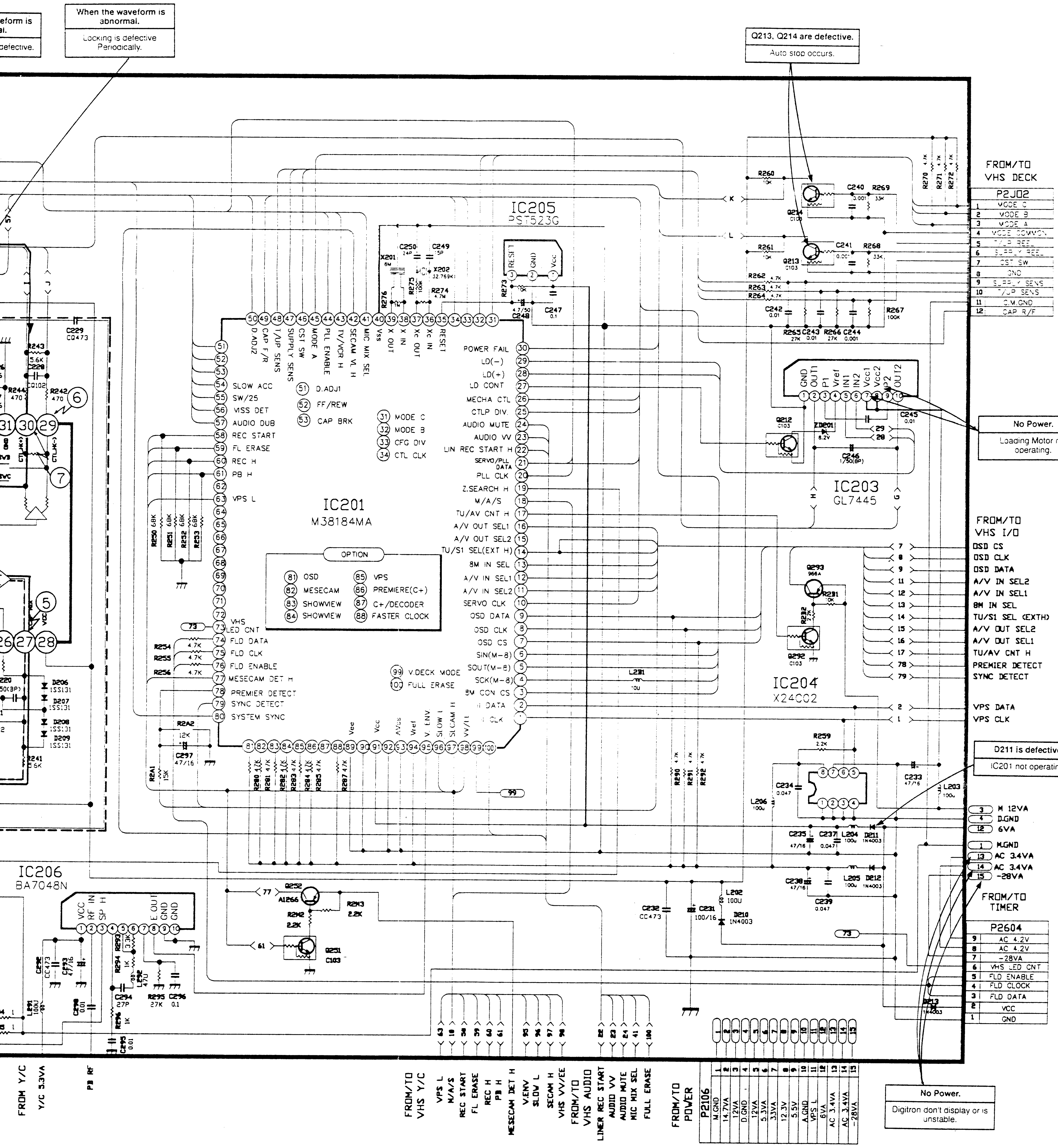
When the waveform is abnormal.
Auto stop occurs.

When the waveform is abnormal.
Drum locking is defective.

When the waveform is abnormal.
Capstan & Drum Motor not controlled .

VR201 Mis-adjustment.
Screen jitter up and down.

FROM/TO 8M SYSCON
P2505
RESET(P.F)
V.TAKE UP
V.SUPPLY
CSO
SOO
SIO
SCKO
SYSTEM SYNC
FROM/TO VHS T/IF
PLL CLK
PLL DATA
SECAM VL H
TV/VCR
PLL ENABLE
FROM/TO VHS Y/C
FSC(4.43M)
SW/25
D.V SYNC
C.SYNC
SP.H
LP.H
FROM/TO VHS AUDIO
LP.H
FROM/TO VHS DECK
P2J03
5VA
N.C
LOAD(-)
LOAD(+)
CTL(+)
CTL(-)
GND
F/E HEAD
GND
PB(-)
GND
PB(+)
TO AUDIO
GND
PB (+)
PB (-)
IC202
HD49756NT
FROM/TO VHS DECK
P2J01
CFG(+)
REG5.3VA
12/14VA
CAP CTL
GND
N.C
DRUM CTL
12VA
D.M.GND
DFG(+)
DPG(-)
DPG(+)
IC206
BA7048N
M 12V
14.2VA
FROM Y/C
Y/C 5.3VA
DRUM PHASE CONTROL
DRUM SPEED CONTROL
CAPSTAN PHASE CONTROL
CAPSTAN SPEED CONTROL
WAVEFORM


IC201
M38184MA
IC205
PST523G
IC203
GL7445
IC204
X24C02
IC206
BA7048N
OPTION
81 OSD
82 MESECAM
83 SHOWVIEW
84 SHOWVIEW
85 VPS
86 PREMIERE(C+)
87 C+/DECODER
88 FASTER CLOCK
51 D.ADJ1
52 FF/REW
53 CAP BRK
31 MODE C
32 MODE B
33 CFG DIV
34 CTL CLK
99 V.DECK MODE
100 FULL ERASE
POWER FAIL
LD(−)
LD(+)
LD CONT
MECHA CTL
CTLP DIV.
AUDIO MUTE
AUDIO VV
LIN REC START H
SERVO/PLL DATA
PLL CLK
Z.SEARCH H
M/A/S
TU/AV CNT H
A/V OUT SEL1
A/V OUT SEL2
TU/S1 SEL(EXT H)
8M IN SEL
A/V IN SEL1
A/V IN SEL2
SERVO CLK
OSD DATA
OSD CLK
OSD CS
SIN(M−8)
SOUT(M−8)
SCK(M−8)
8M CON CS
SLOW ACC
SW/25
VSS DET
AUDIO DUB
REC START
FL ERASE
REC H
PB H
VPS L
VHS LED CNT
FLD DATA
FLD CLK
FLD ENABLE
MESECAM DET H
PREMIER DETECT
SYNC DETECT
SYSTEM SYNC
D.ADJ2
CAP F/R
T/UP SENS
SUPPLY SENS
CST SW
MODE A
PLL ENABLE
TV/VCR H
SECAM VL H
MIC MIX SEL
Vss
X OUT
X IN
Xc OUT
Xc IN
RESET
GND
Vcc
OUT1
P1
Vref
IN1
IN2
Vcc1
Vcc2
P2
OUT2
VCC
RF IN
SP H
E OUT
FROM/TO VHS DECK
P2J02
1 MODE C
2 MODE B
3 MODE A
4 MODE COMMON
5 T/UP REEL
6 SUPPLY REEL
7 CST SW
8 GND
9 SUPPLY SENS
10 T/UP SENS
11 C.M.GND
12 CAP R/F
FROM/TO VHS I/O
OSD CS
OSD CLK
OSD DATA
A/V IN SEL2
A/V IN SEL1
8M IN SEL
TU/S1 SEL (EXTH)
A/V OUT SEL2
A/V OUT SEL1
TU/AV CNT H
PREMIER DETECT
SYNC DETECT
VPS DATA
VPS CLK
M 12VA
D.GND
6VA
M.GND
AC 3.4VA
AC 3.4VA
−28VA
FROM/TO TIMER
P2604
9 AC 4.2V
8 AC 4.2V
7 −28VA
6 VHS LED CNT
5 FLD ENABLE
4 FLD CLOCK
3 FLD DATA
2 VCC
1 GND
FROM/TO POWER
P2106
1 M.GND
2 14.7VA
3 12VA
4 D.GND
5 12VA
6 5.3VA
7 3.3VA
8 12.3V
9 5.5V
10 A.GND
11 VPS L
12 6VA
13 AC 3.4VA
14 AC 3.4VA
15 −28VA
FROM/TO VHS Y/C
VPS L
M/A/S
REC START
FL ERASE
REC H
PB H
MESECAM DET H
V.ENV
SLOW L
SECAM H
VHS VV/EE
FROM/TO VHS AUDIO
LINER REC START
AUDIO VV
AUDIO MUTE
MIC MIX SEL
FULL ERASE
FROM Y/C
Y/C 5.3VA
PB RF
Q213
Q214
Q212
Q293
Q292
Q252 A1266
Q251 C103
X201 8M
X202 32.768K
ZD201 8.2V
D206 1SS131
D207 1SS131
D208 1SS131
D209 1SS131
D210 1N4003
D211 1N4003
D212 1N4003
D213 1N4003
L201 10U
L202 100U
L203 100u
L204 100u
L205 100u
L206 100u
R260 10K
R261 10K
R262 4.7K
R263 4.7K
R264 4.7K
R265 27K
R266 27K
R267 100K
R268 33K
R269 33K
R270 4.7K
R271 4.7K
R272 4.7K
R273 1K
R274 4.7M
R250 68K
R251 68K
R252 68K
R253 68K
R254 4.7K
R255 4.7K
R256 4.7K
R259 2.2K
R2A1 15K
R2A2 12K
R242 2.2K
R243 2.2K
R290 4.7K
R291 4.7K
R292 4.7K
R293 3.3K
R294 1K
R295 27K
R296 1K
C240 0.001
C241 0.001
C242 0.01
C243 0.01
C244 0.001
C245 0.01
C246 1/50(BP)
C247 0.1
C248 4.7/50
C249 15P
C250 24P
C229 CQ473
C231 100/16
C232 CC473
C233 47/16
C234 0.047
C235 47/16
C237 0.047
C238 47/16
C239 0.047
C297 47/16
C292 CC473
C293 47/16
C294 27P
C296 0.1

eform is
al.
efective.

When the waveform is abnormal.

Locking is defective Periodically.

Q213, Q214 are defective.

Auto stop occurs.

No Power.

Loading Motor not operating.

D211 is defective.

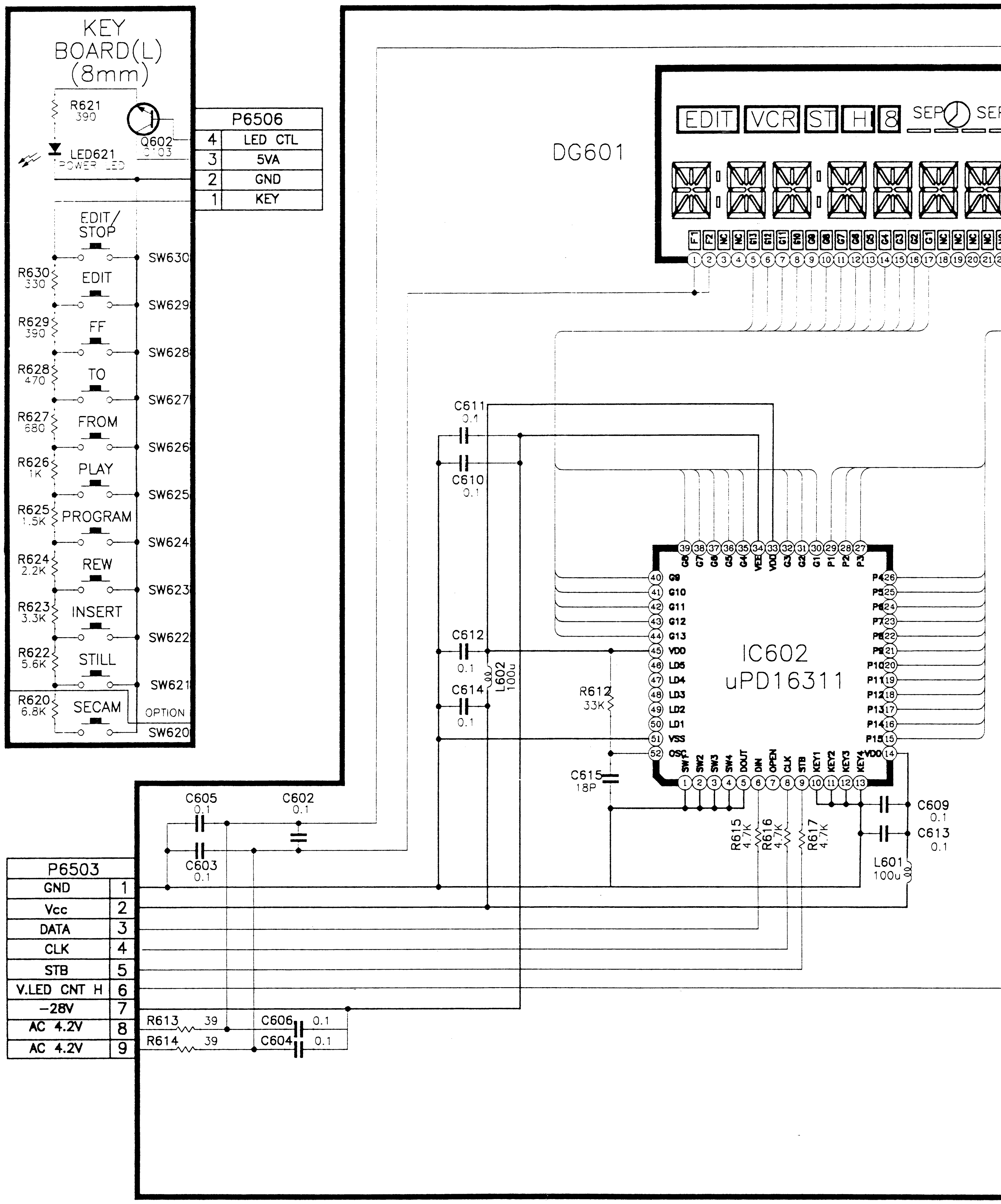
IC201 not operating.

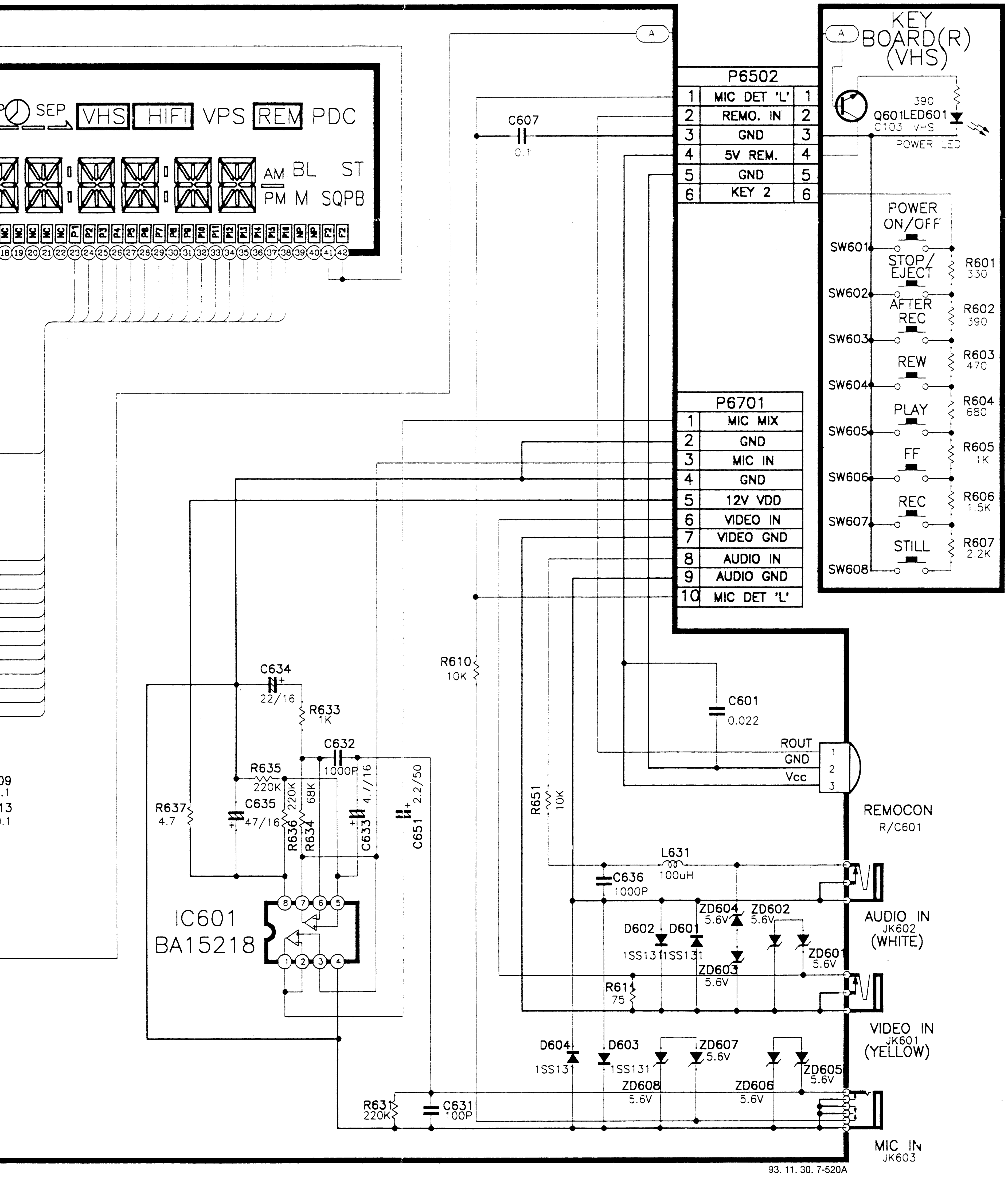
No Power.

Digitron don't display or is unstable.

94. 2. 1. 7-516P

1-3. Timer/Key Function Circuit Diagram


KEY BOARD(L) (8mm)
R621 390
Q602
LED621 POWER LED
P6506
4 LED CTL
3 5VA
2 GND
1 KEY
EDIT/STOP
SW630
R630 330
EDIT
SW629
R629 390
FF
SW628
R628 470
TO
SW627
R627 680
FROM
SW626
R626 1K
PLAY
SW625
R625 1.5K
PROGRAM
SW624
R624 2.2K
REW
SW623
R623 3.3K
INSERT
SW622
R622 5.6K
STILL
SW621
R620 6.8K
SECAM
OPTION
SW620
DG601
EDIT VCR ST HI 8 SEP SE
F1 F2 NC NC G11 G12 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1 NC NC NC
C611 0.1
C610 0.1
C612 0.1
C614 0.1
L602 100u
R612 33K
C615 18P
IC602
uPD16311
G9 G10 G11 G12 G13 VDD LD5 LD4 LD3 LD2 LD1 VSS OSC
G8 G7 G6 G5 G4 VEE VDD G3 G2 G1 P1 P2 P3
P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 VDD
SW1 SW2 SW3 SW4 DOUT DIN OPEN CLK STB KEY1 KEY2 KEY3 KEY4
R615 4.7K
R616 4.7K
R617 4.7K
C609 0.1
C613 0.1
L601 100u
C605 0.1
C602 0.1
C603 0.1
P6503
GND 1
Vcc 2
DATA 3
CLK 4
STB 5
V.LED CNT H 6
-28V 7
AC 4.2V 8
AC 4.2V 9
R613 39
R614 39
C606 0.1
C604 0.1


SEP
VHS
HIFI
VPS
REM
PDC
AM
BL
ST
PM
M
SQPB
A
KEY BOARD(R) (VHS)
P6502
1 MIC DET 'L' 1
2 REMO. IN 2
3 GND 3
4 5V REM. 4
5 GND 5
6 KEY 2 6
C607
0.1
390
Q601
LED601
C103 VHS
POWER LED
POWER ON/OFF
SW601
STOP/ EJECT
R601
330
SW602
AFTER REC
R602
390
SW603
REW
R603
470
SW604
PLAY
R604
680
SW605
FF
R605
1K
SW606
REC
R606
1.5K
SW607
STILL
R607
2.2K
SW608
P6701
1 MIC MIX
2 GND
3 MIC IN
4 GND
5 12V VDD
6 VIDEO IN
7 VIDEO GND
8 AUDIO IN
9 AUDIO GND
10 MIC DET 'L'
R610
10K
C601
0.022
ROUT
GND
Vcc
1
2
3
REMOCON
R/C601
C634
22/16
R633
1K
C632
1000P
R635
220K
C635
47/16
R637
4.7
220K
68K
R636
R634
4.1/16
C633
2.2/50
C651
IC601
BA15218
R651
10K
L631
100uH
C636
1000P
ZD604
5.6V
ZD602
5.6V
D602
D601
1SS131
1SS131
ZD601
5.6V
ZD603
5.6V
R611
75
AUDIO IN
JK602
(WHITE)
VIDEO IN
JK601
(YELLOW)
D604
1SS131
D603
1SS131
ZD607
5.6V
ZD605
5.6V
ZD608
5.6V
ZD606
5.6V
R631
220K
C631
100P
MIC IN
JK603
93. 11. 30. 7-520A

1-4. Pre-Amp Circuit Diagram

*Pre-Amp IC Voltage Sheet

LP Mode

PB(REC)

5.0 (5.0)	2.0 (3.8)	4.7 (4.8)	0.3 (0.3)	1.3 (1.3)	2.2 (2.2)	4.9 (4.9)	3.1 (4.4)	0 (0)	2.8 (3.1)	2.2 (0.1)	2.5 (0)	4.1 (4.0)	0 (2.2)	2.7 (2.7)
30					25					20				
1				5					10					15
4.2 (4.2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4.2 (4.2)	2.3 (4.2)	0 (2.1)	0.7 (2.1)	0 (0)	0.7 (2.1)	0 (2.1)	2.3 (4.2)	5 (4.8)

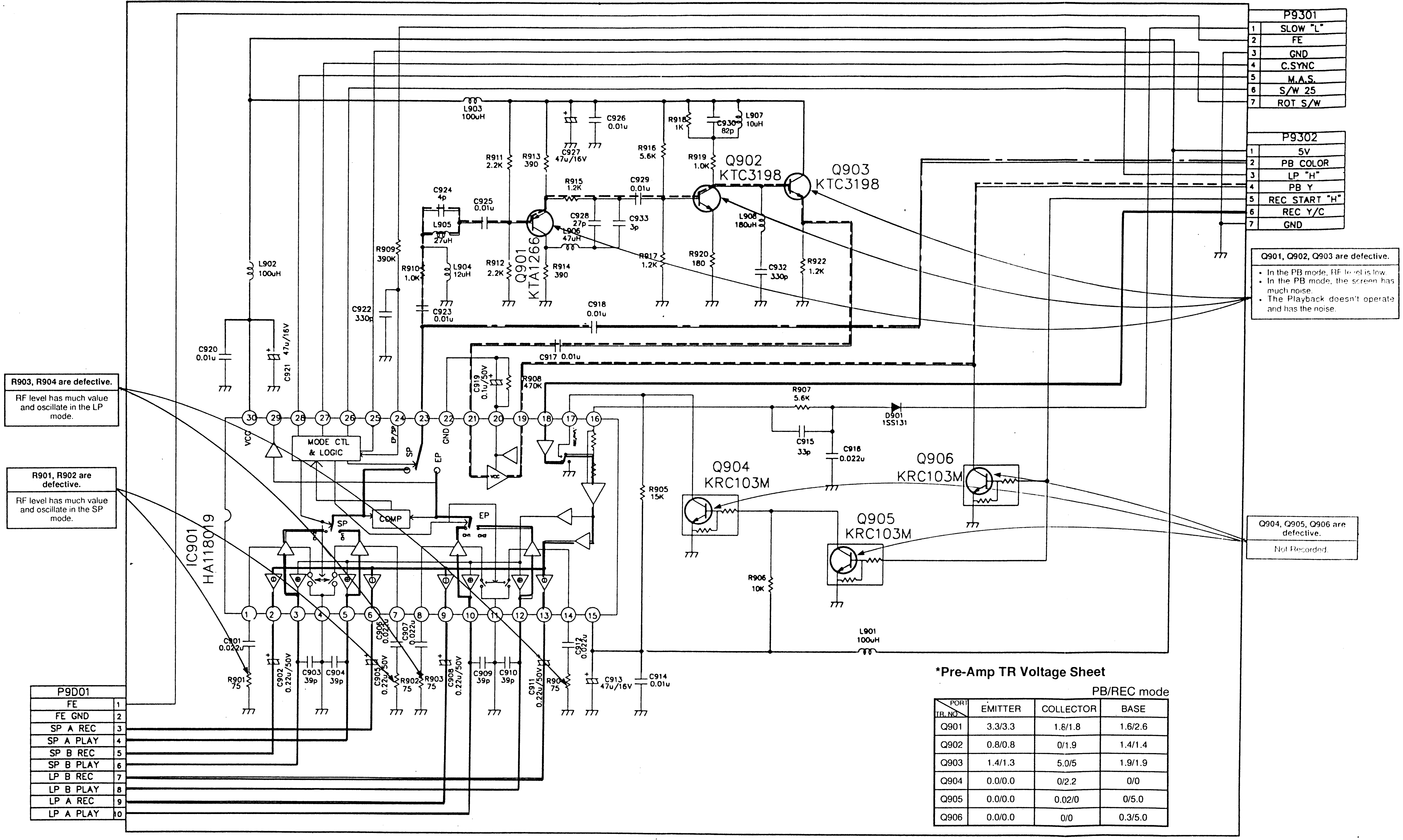
IC901(HA118019)

SP Mode

PB(RFC)

5.0 (5.0)	2.0 (3.8)	4.7 (4.8)	0.3 (0.3)	1.3 (1.3)	2.2 (2.2)	0.1 (0.1)	0 (4.4)	0 (0)	2.8 (3.1)	2.3 (0.1)	2.5 (0)	4.1 (4.1)	0 (2.2)	2.7 (2.7)
30					25					20				
1				5					10					15
2.3 (4.3)	0 (2.2)	0.7 (2.2)	0 (0)	0.7 (2.2)	0 (2.2)	2.3 (4.3)	4.2 (4.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4.2 (4.2)	5.0 (4.8)

IC901(HA118019)


P9301
1 SLOW "L"
2 FE
3 GND
4 C.SYNC
5 M.A.S.
6 S/W 25
7 ROT S/W
P9302
1 5V
2 PB COLOR
3 LP "H"
4 PB Y
5 REC START "H"
6 REC Y/C
7 GND
P9D01
FE 1
FE GND 2
SP A REC 3
SP A PLAY 4
SP B REC 5
SP B PLAY 6
LP B REC 7
LP B PLAY 8
LP A REC 9
LP A PLAY 10
IC901 HA118019
VCC
MODE CTL & LOGIC
SP
EP
GND
COMP
Q901 KTA1266
Q902 KTC3198
Q903 KTC3198
Q904 KRC103M
Q905 KRC103M
Q906 KRC103M
L901 100uH
L902 100uH
L903 100uH
L904 12uH
L905 27uH
L906 47uH
L907 10uH
L908 180uH
R901 75
R902 75
R903 75
R904 75
R905 15K
R906 10K
R907 5.6K
R908 470K
R909 390K
R910 1.0K
R911 2.2K
R912 2.2K
R913 390
R914 390
R915 1.2K
R916 5.6K
R917 1.2K
R918 1K
R919 1.0K
R920 180
R922 1.2K
C901 0.022u
C902 0.22u/50V
C903 39p
C904 39p
C905 0.22u/50V
C906 0.022u
C907 0.022u
C908 0.22u/50V
C909 39p
C910 39p
C911 0.22u/50V
C912 0.022u
C913 47u/16V
C914 0.01u
C915 33p
C916 0.022u
C917 0.01u
C918 0.01u
C919 0.1u/50V
C920 0.01u
C921 47u/16V
C922 330p
C923 0.01u
C924 4p
C925 0.01u
C926 0.01u
C927 47u/16V
C928 27p
C929 0.01u
C930 82p
C932 330p
C933 3p
D901 1SS131

R903, R904 are defective.

RF level has much value and oscillate in the LP mode.

R901, R902 are defective.

RF level has much value and oscillate in the SP mode.

Q901, Q902, Q903 are defective.

- In the PB mode, RF level is low.
- In the PB mode, the screen has much noise.
- The Playback doesn't operate and has the noise.

Q904, Q905, Q906 are defective.

Not Recorded.

*Pre-Amp TR Voltage Sheet

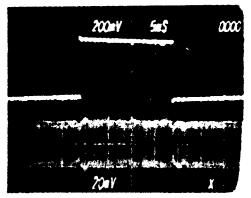
PB/REC mode

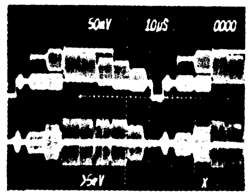
PORT / TR. NO	EMITTER	COLLECTOR	BASE
Q901	3.3/3.3	1.8/1.8	1.6/2.6
Q902	0.8/0.8	0/1.9	1.4/1.4
Q903	1.4/1.3	5.0/5	1.9/1.9
Q904	0.0/0.0	0/2.2	0/0
Q905	0.0/0.0	0.02/0	0/5.0
Q906	0.0/0.0	0/0	0.3/5.0

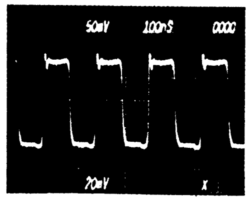
——— RECORD Y+C SIGNAL ——— PLAY BACK Y+C SIGNAL – – – – PLAY BACK Y SIGNAL ——·—— PLAY BACK C SIGNAL

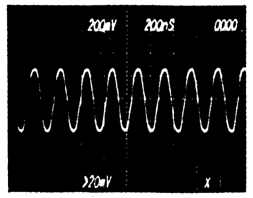
94. 1. 13. 7-517P

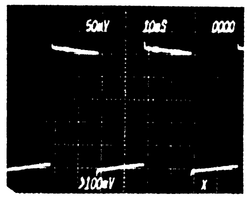
- **Y/C Waveform** (When taking a photograph of waveform, set probe of oscilloscope to 10:1)

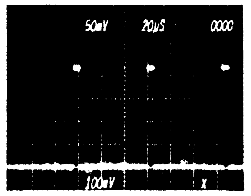
①

P3P02 Pin ② (TP203)
Playback RF (SP mode)
(20mV/5msec)

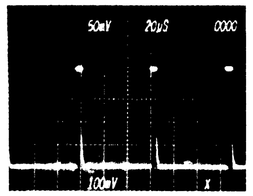
②

IC301 Pin ⑭
Playback Color
(5mV/10μsec)

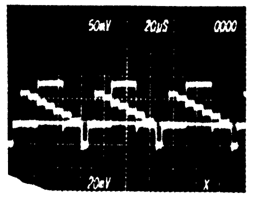
③

IC301 Pin ⑱
Playback Mode : Fsc
Oscillation (20mV/100msec)

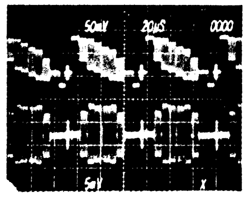
③

IC301 Pin ⑱
Record Mode : Fsc
Oscillation (20mV/100msec)

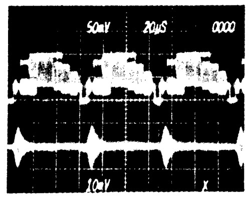
④

TP201
S/W 25 (100mV/10msec)

⑤

IC301 Pin ㉖ C.SYNC
(100mV/20μsec)

⑥

IC301 Pin ㉚
B.G.P Out terminal
(100mV/20μsec)

⑦

IC301 Pin ③
Clamp Input terminal
(20mV/20μsec)

⑧

Q314 Emitter
Record Color Signal
(5mV/20μsec)

⑨

IC303 Pin ⑨
Color Burst signal
(10mV/20μsec)

*Y/C TR Voltage Sheet

PB/REC Mode

PORT / TR. NO	EMITTER	COLLECTOR	BASE	REMARK
Q301	0/0	0/0	0/0	SP Mode
	0/0	0/0	4.7/4.8	LP Mode
Q302	1.5/1.6	5.1/5.0	2/2.1	
Q303	0/0	0/0	0/0	
Q304	3.6/3.0	0/0	3/2.4	
Q305	4.2/3.7	0/0	3.6/3.0	
Q306	0/0	0/0.5	5/0.2	
Q307	0/0	4.6/4.6	0.6/0.5	
Q308	1.2/0	5/0.2	1.8/0.1	
Q309	2.8/0	5/0.2	3.4/0.1	
Q310	0.9/0	1.5/0.2	1.5/0.1	
Q311	1/0	5/0.2	1.5/0.2	
Q312	0/0	0/5	5/0	
Q313	5.1/5.1	5/0.2	4.3/5.1	
Q314	1/0.6	0/0	0.4/0	
Q315	2/0.2	0/0	0/0	
Q316	2.8/0	0/0.2	3.4/0	
Q321	11.6/11.6	0/0	11.6/11.6	
Q322	0/0	11.6/11.6	0/0	
Q323	0.5/0.1	11.6/11.6	0/0	
Q324	0/0	0/0	0/0	
Q325	0/0.16	0/0	0/0	

PAL Mode PB(REC)

2.5 (2.5)	0.6 (0.6)	3.7 (3.2)	3.3 (3.3)	1.4 (1.4)	3.3 (3.3)	0.6 (0.6)	5.0 (5.0)	2.0 (2.0)	0.1 (0.1)	0.5 (0.5)	4.1 (4.1)	5.0 (5.0)	2.0 (2.0)	2.0 (2.0)	2.5 (2.4)	3.3 (3.3)	3.3 (3.3)
	35					30					25		4.6 (4)	MESECAM Mode		20	
IC301(LA7390)																	
1				5					10					15			
2.3 (0)	3.1 (2.4)	2.4 (2.8)	4.5 (2.8)	4.5 (2.8)	4.3 (4.3)	2.5 (2.4)	3.2 (2.2)	2.1 (2.1)	0 (0)	2.0 (2.1)	2.5 (0.5)	2.2 (1.7)	3.0 (3.0)	2.3 (2.5)	2.2 (2.2)	3.8 (3.8)	2.6 (3.4)

*Y/C IC Voltage Sheet

PAL Mode PB(REC)

0 (0)	4.0 (4.0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0.1)	5.4 (5.4)
				10				
IC303(BA7025L)								
1		5					15	
3.8 (3.8)	0 (0)	5.4 (5.4)	4.7 (0)	3.1 (3.1)	3.9 (3.9)	4.0 (4)	0 (0)	5.4 (5.4)

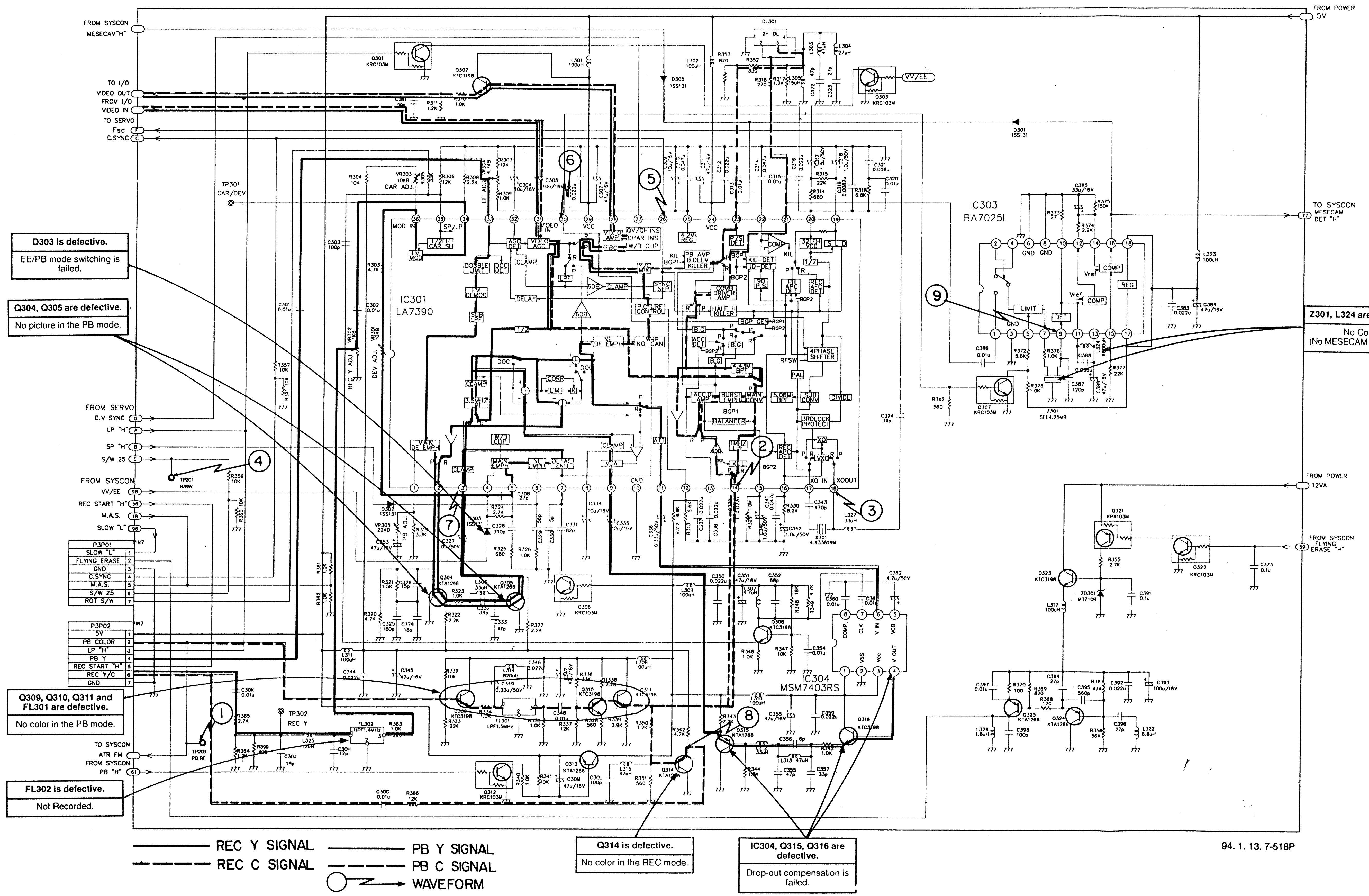
MESECAM Mode PB(REC)

0 (0)	4.0 (4.0)	0 (0)	0 (0)	0 (0)	4.4 (4.3)	4.3 (4.3)	4.5 (4.5)	5.4 (5.4)
				10				
IC303(BA7025L)								
1		5					15	
3.8 (3.8)	0 (0)	5 (5)	4.8 (4.8)	3.2 (3.2)	5 (5)	3.8 (3.8)	0 (0)	5.4 (5.4)

PB(REC)

8 (0.2)	2 (0.1)	2 (0.2)	2 (0.3)
			5
IC304 (MSM7403RS)			
1			
4.85 (0.2)	0 (0)	4.85 (0.2)	3.3 (0.1)

1-5. Y/C Circuit Diagram


FROM SYSCON MESECAM "H"
TO I/O VIDEO OUT
FROM I/O VIDEO IN
TO SERVO Fsc
C.SYNC
TP301 CAR/DEV
FROM SERVO D.V SYNC
LP "H"
SP "H"
S/W 25
FROM SYSCON VV/EE
REC START "H"
M.A.S.
SLOW "L"
TO SYSCON ATR FM
FROM SYSCON PB "H"
FROM POWER 5V
TO SYSCON MESECAM DET "H"
FROM POWER 12VA
FROM SYSCON FLYING ERASE "H"
IC301 LA7390
IC303 BA7025L
IC304 MSM7403RS
DL301 2H-DL
FL301 LPF1.5MHz
FL302 HPF1.4MHz
X301 4.433619M
Z301 SFE4.25MB
P3P01
P3P02
TP201 H/BW
TP203 PB RF
TP302 REC Y

D303 is defective.

EE/PB mode switching is failed.

Q304, Q305 are defective.

No picture in the PB mode.

Q309, Q310, Q311 and FL301 are defective.

No color in the PB mode.

FL302 is defective.

Not Recorded.

Z301, L324 are defective.

No Color.
(No MESECAM DET signal.)

Q314 is defective.

No color in the REC mode.

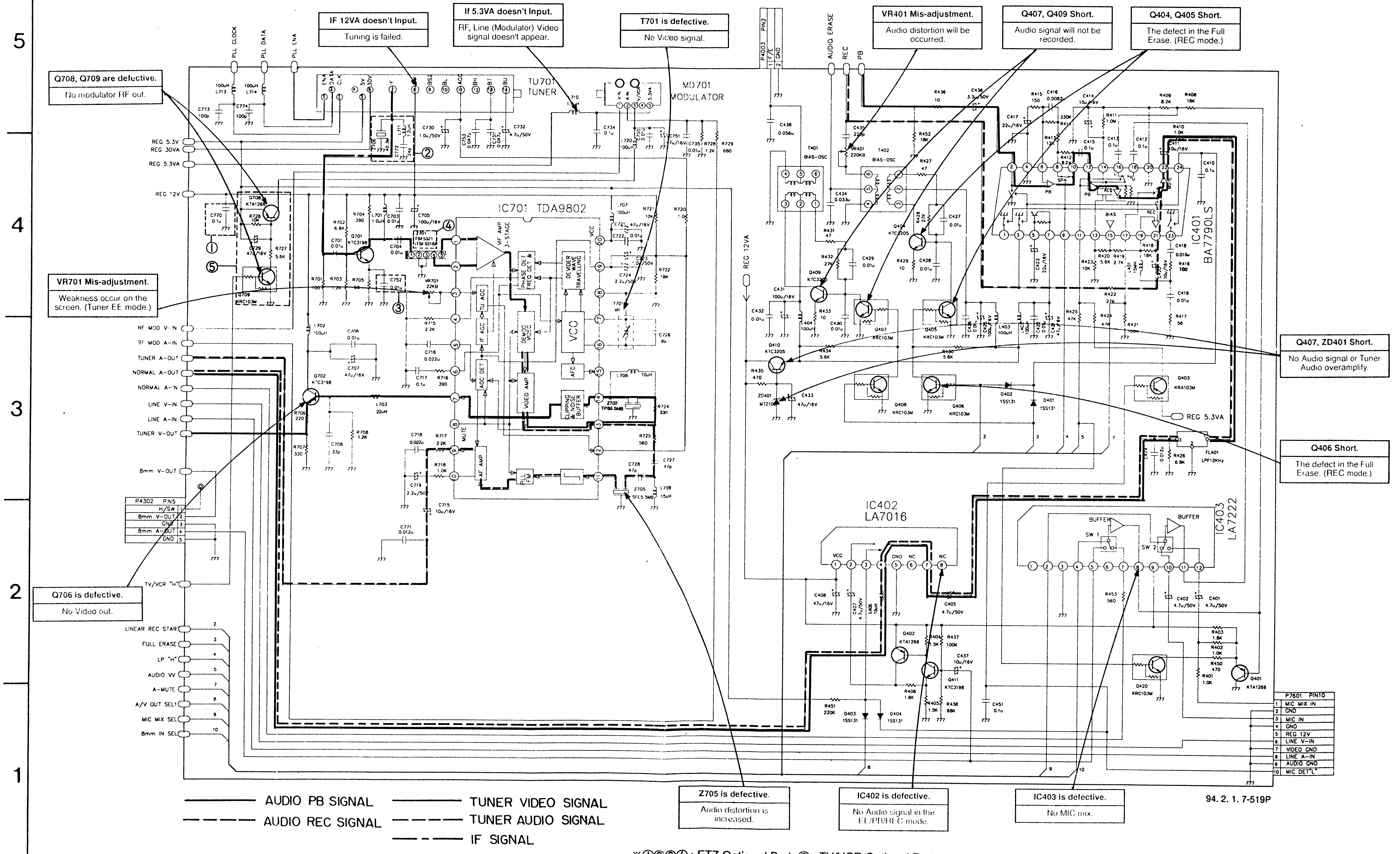
IC304, Q315, Q316 are defective.

Drop-out compensation is failed.

REC Y SIGNAL
REC C SIGNAL
PB Y SIGNAL
PB C SIGNAL
WAVEFORM

94. 1. 13. 7-518P

1-6. Tuner/IF & Audio Circuit Diagram


PLL CLOCK
PLL DATA
PLL ENA
TU701 TUNER
MD701 MODULATOR
IC701 TDA9802
VIF AMP 3-STAGE
PHASE DET & FREQ DET
DEVIDER WAVE TRAVELLING
VCO
AFC
TU AGC
IF AGC
AGC DET
DEMOD VIDEO
VIDEO AMP
CLIPPING & NOISE BUFFER
AF AMP
PLL FM
MUTE
AUDIO ERASE
REC
PB
P4003 PIN2
REG 12VA
T401 BIAS-OSC
T402 BIAS-OSC
IC401 BA7790LS
IC402 LA7016
IC403 LA7222
BUFFER
SW 1
SW 2
FL401 LPF12KHz
REG 5.3V
REG 30VA
REG 5.3VA
REG 12V
RF MOD V-IN
RF MOD A-IN
TUNER A-OUT
NORMAL A-OUT
NORMAL A-IN
LINE V-IN
LINE A-IN
TUNER V-OUT
8mm V-OUT
P4302 PIN5
H/SW
8mm V-OUT
GND
8mm A-OUT
GND
TV/VCR "H"
LINEAR REC START
FULL ERASE
LP "H"
AUDIO VV
A-MUTE
A/V OUT SEL
MIC MIX SEL
8mm IN SEL
P7601 PIN10
1 MIC MIX IN
2 GND
3 MIC IN
4 GND
5 REG 12V
6 LINE V-IN
7 VIDEO GND
8 LINE A-IN
9 AUDIO GND
10 MIC DET"L"
REG 5.3VA
AUDIO PB SIGNAL
AUDIO REC SIGNAL
TUNER VIDEO SIGNAL
TUNER AUDIO SIGNAL
IF SIGNAL
94. 2. 1. 7-519P

Q708, Q709 are defective.
No modulator RF out.

IF 12VA doesn't Input.
Tuning is failed.

If 5.3VA doesn't Input.
RF, Line (Modulator) Video signal doesn't appear.

T701 is defective.
No Video signal.

VR401 Mis-adjustment.
Audio distortion will be occurred.

Q407, Q409 Short.
Audio signal will not be recorded.

Q404, Q405 Short.
The defect in the Full Erase. (REC mode.)

VR701 Mis-adjustment.
Weakness occur on the screen. (Tuner EE mode.)

Q407, ZD401 Short.
No Audio signal or Tuner Audio overamplify.

Q406 Short.
The defect in the Full Erase. (REC mode.)

Q706 is defective.
No Video out.

Z705 is defective.
Audio distortion is increased.

IC402 is defective.
No Audio signal in the EE/PB/REC mode.

IC403 is defective.
No MIC mix.

※①②③④ : FTZ Optional Part, ⑤ : TV/VCR Optional Part

*Tuner/IF TR Voltage Sheet

PORT / TR. NO	EMITTER	COLLECTOR	BASE
Q701	1.17	12.2	1.78
Q702	1.62	12.2	2.23
Q708	5.25	5.13	4.50
Q709	0	0	5.07

*Tuner/IF IC Voltage Sheet

5.11	3.01	0.0	2.79	2.79	4.89	1.97	1.99	4.10	2.59
20					15				
IC701(TDA9802)									
1				5					10
3.32	3.32	1.07	0.21	3.08	2.50	2.24	3.23	1.96	1.50

*Tuner

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0.11	0.14	0	0.06	5.26	30.6	0	12.2	0	0	4.7	11.9	18.6	0

*Audio TR Voltage Sheet

PB/REC Mode

PORT / TR. NO	EMITTER	COLLECTOR	BASE
Q401	0.0/7.5	0.0/0.0	7.0/6.9
Q402	11.6/11.5	7.4/7.3	10.9/10.8
Q403	4.7/4.7	4.8/0.4	4.6/4.6
Q404	0.0/0.4	8.9/8.8	0.0/0.8
Q405	0.0/0.0	0.0/0.8	7.3/0.0
Q406	0.0/0.0	7.3/0.0	0.0/4.6
Q407	0.0/0.0	0.0/0.9	7.4/0.0
Q408	0.0/0.0	7.4/0.0	0.0/4.9
Q409	0.0/0.5	9.0/8.8	0.0/0.9
Q410	9.0/8.9	11.6/11.5	9.5/9.5
Q411	4.0/4.0	11.0/10.8	4.6/4.5
Q420	0.0/0.0	0.0/7.5	4.9/0.0

*Audio IC Voltage Sheet

PB(REC)

3.4 (3.4)	0.0 (0.0)	3.4 (3.4)	3.5 (3.5)	3.5 (3.5)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	1.1 (4.7)
				10					20		
IC401(BA7790LS)											
1		5					15				
0.0 (0.0)	0.0 (0.0)	8.8 (8.8)	8.9 (8.9)	0.0 (0.0)	4.9 (0.4)	2.6 (2.6)	4.1 (4.1)	0.0 (0.0)	4.1 (4.1)	4.1 (4.1)	0.0 (0.0)

PB(REC)

IC402(LA7016)

1				5			8
11.6 (11.5)	7.6 (7.5)	0.3 (0.3)	6.9 (6.8)	0.0 (0.0)	0.0 (0.0)	7.6 (7.5)	0.0 (0.0)

PB(REC)

IC403(LA7222)

1				5					10		
0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	7.7 (7.6)	0.0 (0.0)	7.7 (7.6)	7.0 (6.9)	11.6 (11.5)	7.7 (7.6)	7.0 (6.9)	7.7 (7.6)

***In/Out IC Voltage Sheet**

IC801(LA7954)

1				5				9	
4.3	0	0	4.9	0	4.9	11.7	4.9	5	TU
4.3	5	0	4.9	0	4.9	11.7	4.9	5	S1
4.3	0	5	4.9	0	4.9	11.7	4.9	5	S2
4.3	5	5	4.9	0	4.9	11.7	4.9	5	A/V

IC803(LA7954)

1				5				9	
4.2	0	0	4.9	0	4.9	11.7	4.9	5.	TU
4.2	5	0	4.9	0	4.9	11.7	4.9	5	S1
4.2	0	5	4.9	0	4.9	11.7	4.9	5	S2
4.2	5	5	4.9	0	4.9	11.7	4.9	5	A/V

TITLE OFF (ON)

IC806(NJM2249L)

1				5			8
2.9 (2.9)	0 (1.5)	2.8 (2.8)	0 (1.1)	3.2 (3.2)	6.4 (6.4)	2.1 (2.1)	0 (0)

TU

IC802(LA7222)

1				5					10		
0	0	0	0	7.7	0	7.7	7	11.7	7.7	7	7.7

TU

IC804(LA7222)

1				5					10		
0	0	0	0	7.7	0	7.7	7	11.7	7.7	7	7.7

TU

IC805(NJM2245S)

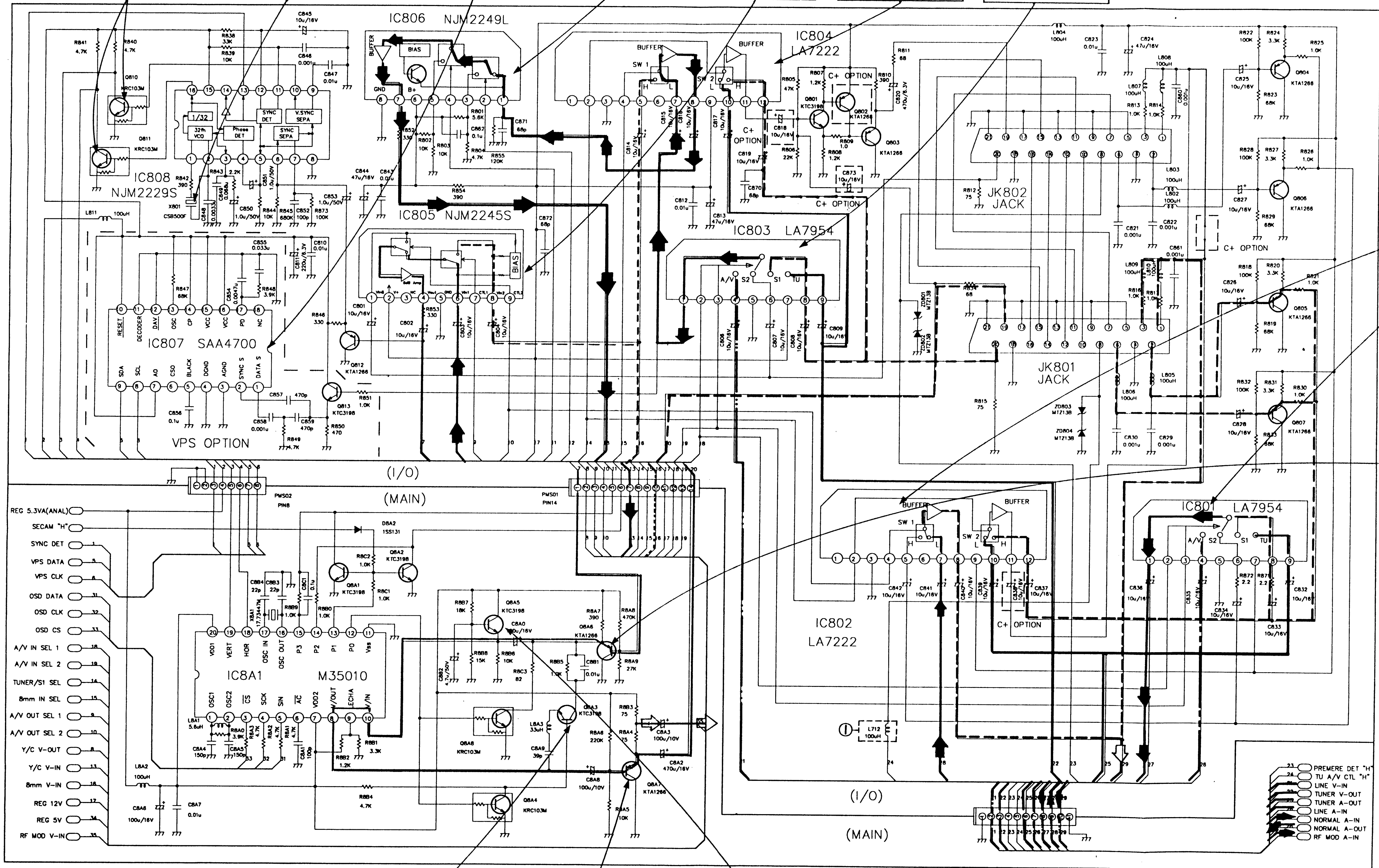
1				5				9
8	11.7	0	6.1	0	7.9	0	8	0

TU

IC808(NJM2249S)

0.3	4.8	0	4.1	1.8	0.6	0.1	0.2
	15					10	
1				5			
2.5	2	2.1	0	0.5	3.7	2.9	0

1-7. Scart In/Out & Function OSD Circuit Diagram


IC806 NJM2249L
IC804 LA7222
IC808 NJM2229S
IC805 NJM2245S
IC803 LA7954
IC807 SAA4700
VPS OPTION
JK802 JACK
JK801 JACK
C+ OPTION
(I/O)
(MAIN)
PMS02 PIN8
PMS01 PIN14
IC8A1 M35010
IC802 LA7222
IC801 LA7954
BUFFER
SW 1
SW 2
BIAS
REG 5.3VA(ANAL)
SECAM "H"
SYNC DET
VPS DATA
VPS CLK
OSD DATA
OSD CLK
OSD CS
A/V IN SEL 1
A/V IN SEL 2
TUNER/S1 SEL
8mm IN SEL
A/V OUT SEL 1
A/V OUT SEL 2
Y/C V-OUT
Y/C V-IN
8mm V-IN
REG 12V
REG 5V
RF MOD V-IN
PREMERE DET "H"
TU A/V CTL "H"
LINE V-IN
TUNER V-OUT
TUNER A-OUT
LINE A-IN
NORMAL A-IN
NORMAL A-OUT
RF MOD A-IN
A
B
C
D
E
F
G
H
1
2
3
4
5

Q810, Q811 are defective.
F-OSD not operate.

X801 is defective.
F-OSD not operate.

IC807 is defective.
VPS not operate.

IC806 is defective.
Title defect.

IC805 is defective.
8mm Video is not switching.

IC804 is defective.
No Video signal in the EE mode.

IC803 is defective.
TU/AV/S1/S2 Video are not switching.

IC802 is defective.
No Audio signal in the EE mode.

IC801 is defective.
TU/AV/S1/S2 Audio are not switching.

Q8A6 is defective.
No Video out.

Q8A3 is defective.
Secam F-OSD spread.

Q8A7 is defective.
No Video out.

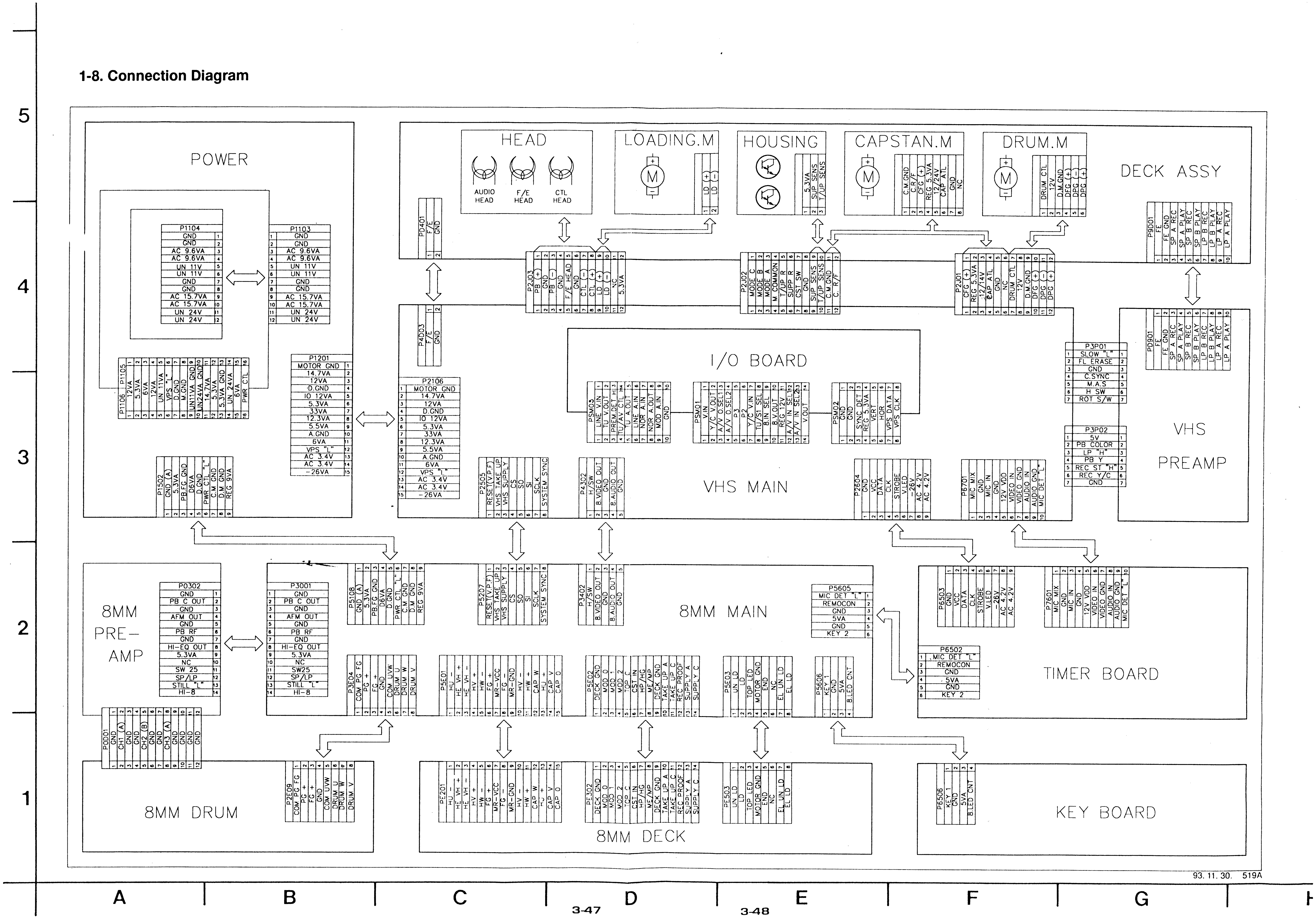
Q8A5 is defective.
F-OSD character is unstable.

——— TUNER AUDIO
– – – – LINE AUDIO
—·—·— A/V AUDIO
⇨ MOD AUDIO
➡ MAIN AUDIO
——— OSD VIDEO
– – – – 8mm VIDEO

——— TUNER VIDEO
– – – – LINE VIDEO
—·—·— A/V VIDEO
⇨ MOD VIDEO
➡ Y/C VIDEO
※ ①: In VHS Main Board

94. 2. 7-521P

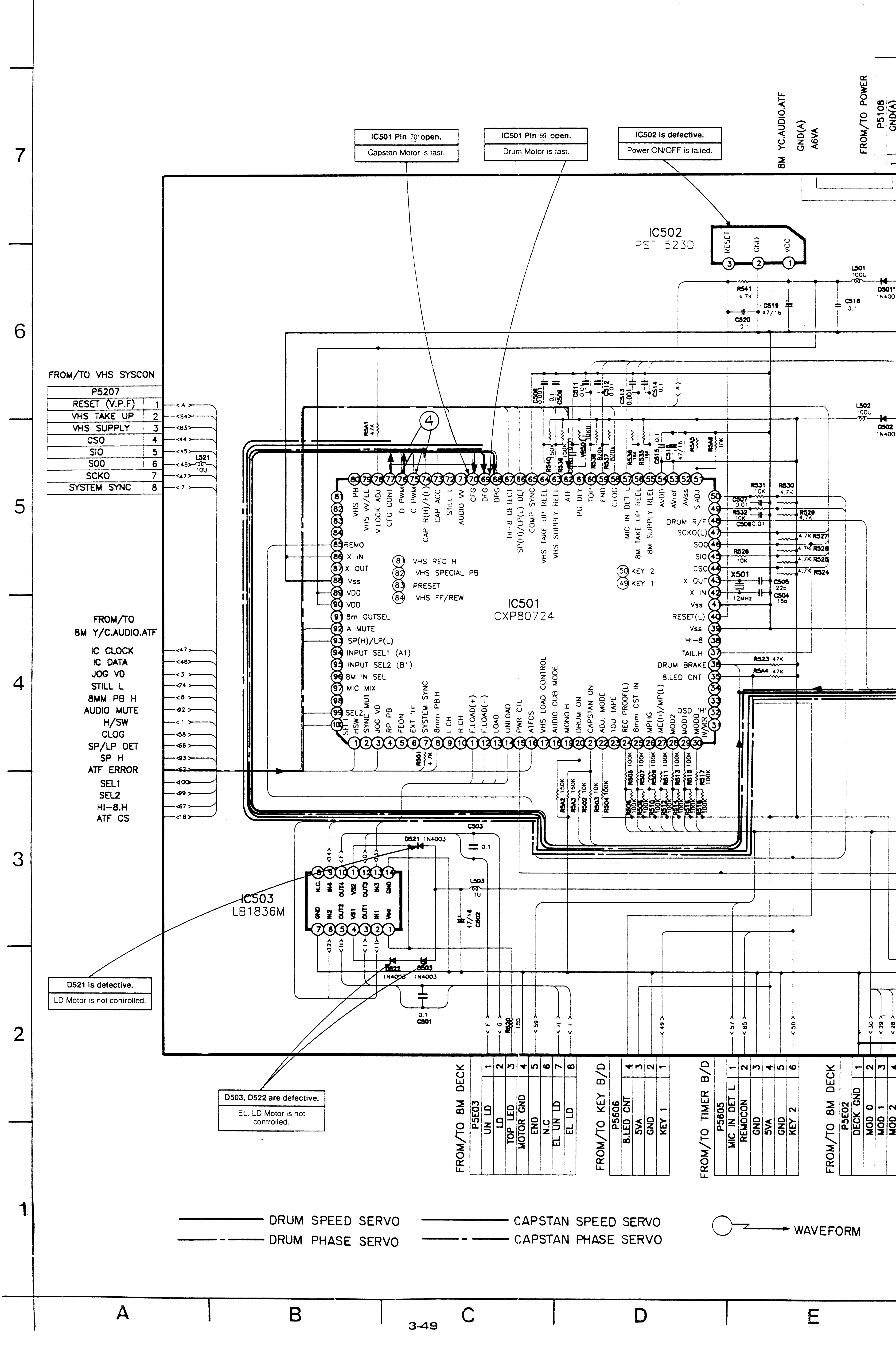
1-8. Connection Diagram



5
4
3
2
1
A
B
C
D
E
F
G
H
POWER
P1104
GND
GND
AC 9.6VA
AC 9.6VA
UN 11V
UN 11V
GND
GND
AC 15.7VA
AC 15.7VA
UN 24V
UN 24V
P1103
GND
GND
AC 9.6VA
AC 9.6VA
UN 11V
UN 11V
GND
GND
AC 15.7VA
AC 15.7VA
UN 24V
UN 24V
P1105
P1106
12VA
5.3VA
6VA
12VA
UN 11VA
VPS "L"
D.GND
M.GND
UN11VA GND
UN24VA GND
14.7VA
5.3VA
5.3VA GND
UN 24VA
6VA
PWR CTL
P1201
MOTOR GND
14.7VA
12VA
D.GND
IO 12VA
5.3VA
33VA
12.3VA
5.5VA
A.GND
6VA
VPS "L"
AC 3.4V
AC 3.4V
-26VA
P1502
GND (A)
5.3VA
PB.FG GND
D6VA
D.GND
PWR CTL "L"
C.M.GND
D.M.GND
REG 9VA
HEAD
AUDIO HEAD
F/E HEAD
CTL HEAD
LOADING.M
M
LD (+)
LD (-)
HOUSING
5.3VA
SUP SENS
T/UP SENS
CAPSTAN.M
C.M.GND
C.R/F
CFG (+)
REG 5.3VA
12/24V
CAP ATL
GND
NC
DRUM.M
DRUM CTL
12V
D.M.GND
DFG (+)
DPG (-)
DPG (+)
DECK ASSY
P0401
F/E
GND
P2J03
PB (+)
GND
PB (-)
GND
F/E HEAD
GND
CTL (-)
CTL (+)
LD (+)
LD (-)
NC
5.3VA
P2J02
MODE C
MODE B
MODE A
M COMMON
T/UP R
SUPP R
CST SW
GND
SUP SENS
T/UP SENS
C.M.GND
C. R/F
P2J01
CFG (+)
REG 5.3VA
12/14V
CAP ATL
GND
NC
DRUM CTL
12V
D.M.GND
DFG (+)
DPG (-)
DPG (+)
P9D01
FE
FE GND
SP A REC
SP A PLAY
SP B REC
SP B PLAY
LP B REC
LP B PLAY
LP A REC
LP A PLAY
P4D03
F/E
GND
P2106
MOTOR GND
14.7VA
12VA
D.GND
IO 12VA
5.3VA
33VA
12.3VA
5.5VA
A.GND
6VA
VPS "L"
AC 3.4V
AC 3.4V
-26VA
I/O BOARD
PSM03
LINE V.IN
TU V.OUT
PREM.DET H/L3
TU A/V CTL H/4
U A.OUT
LINE A.IN
NOR A.IN
NOR A.OUT
MOD A.IN
GND
PSM01
V.IN
Y/C V.OUT
A/V O.SEL1
A/V O.SEL2
P3
P2
Y/C V.IN
TU/ST SEL
8.IN SEL
8.V.OUT
REG 12V
A/V IN SEL1
A/V IN SEL2
V.OUT
PSM02
GND
GND
SYNC DET
REG 5.3VA
VERT
HOR
VPS DATA
VPS CLK
P3P01
SLOW "L"
FL ERASE
GND
C.SYNC
M.A.S
H SW
ROT S/W
P3P02
5V
PB COLOR
LP "H"
PB Y
REC ST "H"
REC Y/C
GND
PD901
FE
FE GND
SP A REC
SP A PLAY
SP B REC
SP B PLAY
LP B REC
LP B PLAY
LP A REC
LP A PLAY
VHS PREAMP
VHS MAIN
P2505
RESET(V.P.F)
VHS TAKE UP
VHS SUPPLY
CS
SO
SI
SCLK
SYSTEM SYNC
P4302
H/SW
8.VIDEO OUT
GND
8.AUDIO OUT
GND
P2604
GND
VCC
DATA
CLK
STROBE
V.LED
-26V
AC 4.2V
AC 4.2V
P6701
MIC MIX
GND
MIC IN
GND
12V VDD
VIDEO IN
VIDEO GND
AUDIO IN
AUDIO GND
MIC DET "L"
8MM PRE-AMP
P0302
GND
PB C OUT
GND
AFM OUT
GND
PB RF
GND
HI-EQ OUT
5.3VA
NC
SW 25
SP/LP
STILL "L"
HI-8
P3001
GND
PB C OUT
GND
AFM OUT
GND
PB RF
GND
HI-EQ OUT
5.3VA
NC
SW25
SP/LP
STILL "L"
HI-8
P5108
GND (A)
5.3VA
PB.FG GND
D6VA
D.GND
PWR CTL "L"
C.M.GND
D.M.GND
REG 9VA
P5207
RESET(V.P.F)
VHS TAKE UP
VHS SUPPLY
CS
SO
SI
SCLK
SYSTEM SYNC
P3402
H/SW
8.VIDEO OUT
GND
8.AUDIO OUT
GND
8MM MAIN
P5605
MIC DET "L"
REMOCON
GND
5VA
GND
KEY 2
P6503
GND
VCC
DATA
CLK
STROBE
V.LED
-26V
AC 4.2V
AC 4.2V
P7601
MIC MIX
GND
MIC IN
GND
12V VDD
VIDEO IN
VIDEO GND
AUDIO IN
AUDIO GND
MIC DET "L"
P6502
MIC DET "L"
REMOCON
GND
5VA
GND
KEY 2
TIMER BOARD
P3E04
COM PG FG
PG +
FG +
GND
COM UVW
DRUM U
DRUM W
DRUM V
P5E01
HU -
HU +
HE VH +
HE VH -
HW -
HW +
FG +
MR-VCC
FG -
MR-GND
HV -
HV +
CAP W
HU +
CAP V
CAP O
P5E02
DECK GND
MOD 0
MOD 1
MOD 2
TOP C
CST IN
HP/HG
ME/MP
DECK GND
TAKE UP A
TAKE UP C
REC PROOF
SUPPLY A
SUPPLY C
P5E03
UN LD
LD
TOP LED
MOTOR GND
END
NC
EL UN LD
EL LD
P5606
KEY 1
GND
5VA
8.LED CNT
P0D01
GND
CH1 (A)
GND
GND
CH2 (B)
GND
GND
CH3 (A)
GND
GND
GND
GND
8MM DRUM
P2E09
COM PG FG
PG +
FG +
GND
COM UVW
DRUM U
DRUM W
DRUM V
PE201
HU -
HU +
HE VH +
HE VH -
HW -
HW +
FG +
MR-VCC
FG -
MR-GND
HV -
HV +
CAP W
HU +
CAP V
CAP O
PE302
DECK GND
MOD 0
MOD 1
MOD 2
TOP C
CST IN
HP/HG
ME/MP
DECK GND
TAKE UP A
TAKE UP C
REC PROOF
SUPPLY A
SUPPLY C
PE503
UN LD
LD
TOP LED
MOTOR GND
END
NC
EL UN LD
EL LD
8MM DECK
P6506
KEY 1
GND
5VA
8.LED CNT
KEY BOARD
93. 11. 30. 519A

2. 8mm Circuit Diagrams

2-1. Main System (Servo, Syscon) Circuit Diagram


IC501 Pin 70 open.
Capstan Motor is fast.

IC501 Pin 69 open.
Drum Motor is fast.

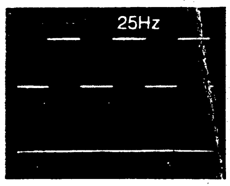
IC502 is defective.
Power ON/OFF is failed.

D521 is defective.
LD Motor is not controlled.

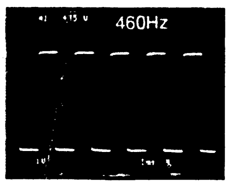
D503, D522 are defective.
EL, LD Motor is not controlled.

8
7
6
5
4
3
2
1
A
B
C
D
E
8M YC.AUDIO.ATF
GND(A)
A6VA
FROM/TO POWER
P5108
GND(A)
IC502
PST 523D
RESET
GND
VCC
FROM/TO VHS SYSCON
P5207
RESET (V.P.F)
VHS TAKE UP
VHS SUPPLY
CSO
SIO
SOO
SCKO
SYSTEM SYNC
IC501
CXP80724
VHS PB
VHS W/EE
V LOCK ADJ
CFG CONT
D PWM
C PWM
CAP R(H)/F(L)
CAP ACC
STILL L
AUDIO W
CFG
DFG
DPG
HI-8 DETECT
SP(H)/LP(L) DET
COMP SYNC
VHS TAKE UP REEL
VHS SUPPLY REEL
ATF
PG DLY
TOP
END
CLOG
MIC IN DET L
8M TAKE UP REEL
8M SUPPLY REEL
AVDD
AVref
AVss
S.ADJ
DRUM R/F
SCKO(L)
SOO
SIO
CSO
X OUT
X IN
Vss
RESET(L)
Vss
HI-8
TAIL.H
DRUM BRAKE
8.LED CNT
REMO
X IN
X OUT
Vss
VDD
VDD
8m OUTSEL
A MUTE
SP(H)/LP(L)
INPUT SEL1 (A1)
INPUT SEL2 (B1)
8M IN SEL
MIC MIX
SEL2
SEL1
HSW
SYNC MUT
JOG VD
RP PB
FEON
EXT 'H'
SYSTEM SYNC
8mm PB.H
L.CH
R.CH
F.LOAD(+)
F.LOAD(-)
LOAD
UNLOAD
PWR CTL
ATFCS
VHS LOAD CONTROL
AUDIO DUB MODE
MONO.H
DRUM ON
CAPSTAN ON
ADJ. MODE
10U TAPE
REC PROOF(L)
8mm CST IN
MPHG
ME(H)/MP(L)
MOD2
MOD1
MOD0
OSD 'H'
TV/VCR
81 VHS REC H
82 VHS SPECIAL PB
83 PRESET
84 VHS FF/REW
50 KEY 2
49 KEY 1
X501
12MHz
FROM/TO 8M Y/C.AUDIO.ATF
IC CLOCK
IC DATA
JOG VD
STILL L
8MM PB H
AUDIO MUTE
H/SW
CLOG
SP/LP DET
SP H
ATF ERROR
SEL1
SEL2
HI-8.H
ATF CS
IC503
LB1836M
D521 1N4003
D522 1N4003
D503 1N4003
FROM/TO 8M DECK
P5E03
UN LD
LD
TOP LED
MOTOR GND
END
N.C
EL UN LD
EL LD
FROM/TO KEY B/D
P5606
8.LED CNT
5VA
GND
KEY 1
FROM/TO TIMER B/D
P5605
MIC IN DET L
REMOCON
GND
5VA
GND
KEY 2
FROM/TO 8M DECK
P5E02
DECK GND
MOD 0
MOD 1
MOD 2
DRUM SPEED SERVO
DRUM PHASE SERVO
CAPSTAN SPEED SERVO
CAPSTAN PHASE SERVO
WAVEFORM

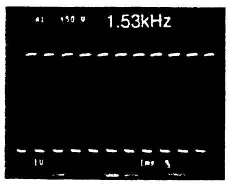
• 8mm Main System Waveform

①


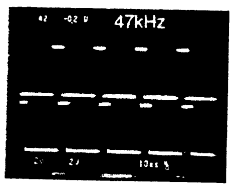
(UP) HSW
(DOWN) DPG
IC506 ⑨

②


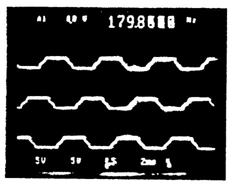
DFG
IC506 ⑩

③


CFG
IC506 ⑫

④


(UP) D PWM
IC501 ⑯
(DOWN) C PWM
IC501 ⑮

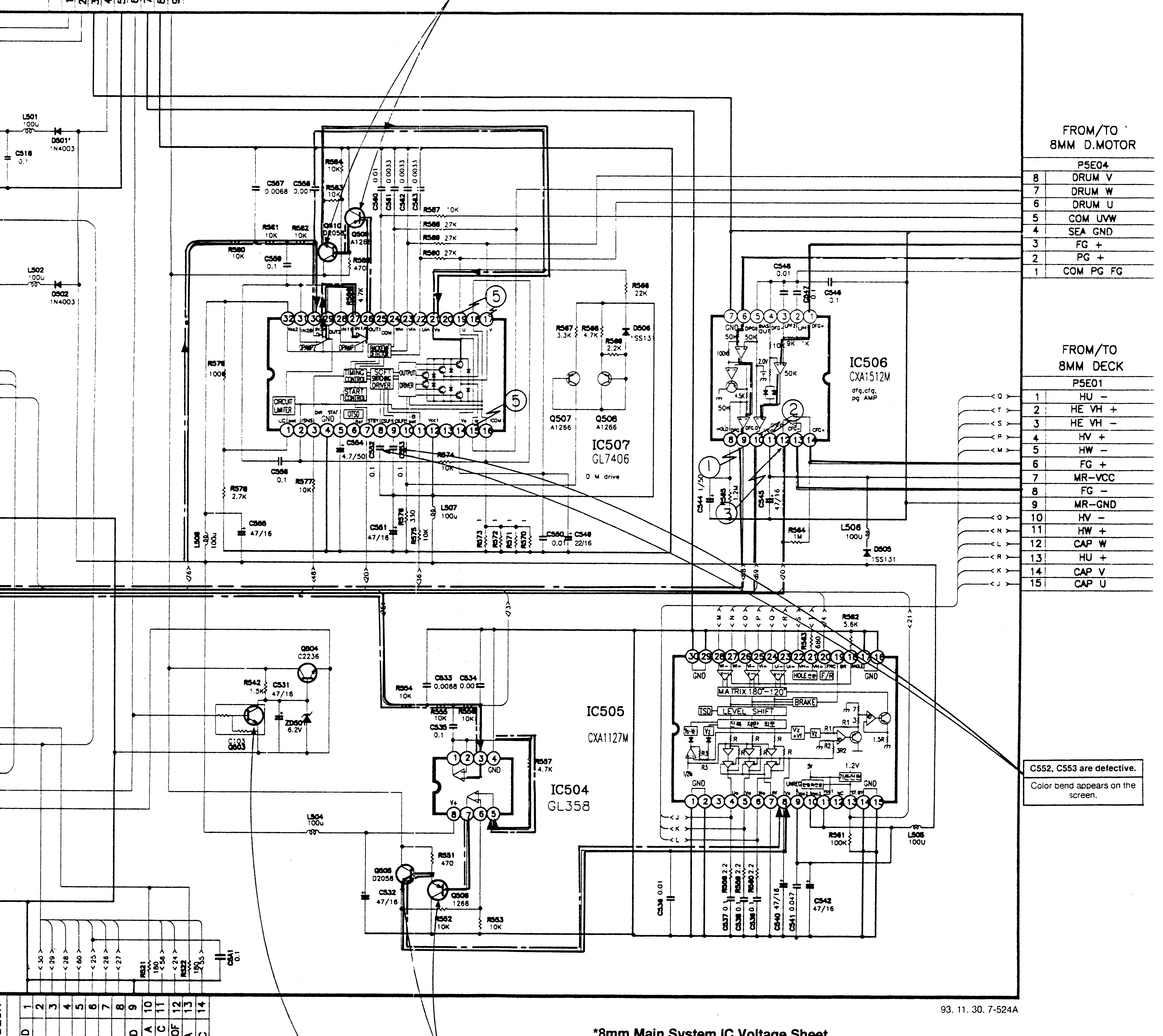
⑤


(UP) Drum U
IC507 ⑲
(MIDDLE) Drum V
IC507 ⑰
(DOWN) Drum W
IC507 ⑮

FROM/TO POWER

P5108	
1	GND(A)
2	A6VA
3	PG.FG GND
4	D6VA
5	D.GND
6	PWR CTL L
7	C.M.GND
8	D.M.GND
9	UNREG 11V

Q509, Q510 are defective.
Drum Motor is fast or slow.


L501
100u
D501
1N4003
C516
0.1
L502
100u
D502
1N4003
C567
0.0068
C558
0.001
R584
10K
R583
10K
Q510
D2058
Q509
A1266
R561
10K
R582
10K
R580
10K
C559
0.1
R585
470
R586
4.7K
C560 0.01
C561 0.0033
C562 0.0033
C563 0.0033
R587 10K
R588 27K
R589 27K
R590 27K
R566
22K
R579
100
R567
3.3K
R568
4.7K
R569
2.2K
D506
1SS131
Q507
A1266
Q508
A1266
IC507
GL7406
D M drive
OPAMP2
OPAMP1
BACK EMF DETECTOR
TIMING CONTROL
SOFT SWITCHING DRIVER
OUTPUT DRIVER
START CONTROL
CIRCUIT LIMITER
OTSD
C554
4.7/50
C552
C553
R574
10K
C556
0.1
R577
10K
R578
2.7K
C565
47/16
L508
100u
C551
47/16
R576
330
R575
10
L507
100u
R573
R572
R571
R570
C550
0.01
C549
22/16
C548
0.01
C547
0.1
C546
0.1
IC506
CXA1512M
dfg,cfg,
pg AMP
C544 1/50
R545
1.2K
C545
47/16
R564
1M
L506
100U
D505
1SS131
FROM/TO
8MM D.MOTOR
P5E04
8 DRUM V
7 DRUM W
6 DRUM U
5 COM UVW
4 SEA GND
3 FG +
2 PG +
1 COM PG FG
FROM/TO
8MM DECK
P5E01
1 HU −
2 HE VH +
3 HE VH −
4 HV +
5 HW −
6 FG +
7 MR−VCC
8 FG −
9 MR−GND
10 HV −
11 HW +
12 CAP W
13 HU +
14 CAP V
15 CAP U
Q504
C2236
R542
1.5K
C531
47/16
ZD501
6.2V
C103
Q503
C533
0.0068
C534
0.001
R554
10K
R555
10K
R556
10K
C535
0.1
R557
4.7K
IC504
GL358
IC505
CXA1127M
L504
100u
Q505
D2058
Q506
1266
R551
470
C532
47/16
R552
10K
R553
10K
R562
5.6K
R543
680
MATRIX 180°−120°
HOLE
F/R
BRAKE
TSD
LEVEL SHIFT
GND
R561
100K
L505
100U
C536 0.01
C537 0.1
C538 0.1
C539 0.1
R558 2.2
R559 2.2
R560 2.2
C540 47/16
C541 0.047
C542
47/16
R521
180
R522
180
C5A1
0.1
①
②
③
⑤

P5E02	
1	DECK GND
2	MOD 0
3	MOD 1
4	MOD 2
5	TOP C
6	CST IN
7	HP HG
8	ME MP
9	DECK GND
10	TAKE UP A
11	TAKE UP C
12	REC PROOF
13	SUPPLY A
14	SUPPLY C

C552, C553 are defective.
Color bend appears on the screen.

93. 11. 30. 7-524A

Q503 is defective.
Tape is not loaded.

Q505, Q506 are defective.
Capstan Motor is fast or slow.

ORM

*8mm Main System IC Voltage Sheet

IC504 (GL358)

6	1.8	0.8	0.8
			5
1			
0.8	0.8	0.8	0.8

IC505(CXA1127M)

0	0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.2	0	0	1.3	0	0
30					25					20				
1				5					10					15
0	0	0	1.6	1.6	1.6	0	1.6	6	6	6	0	5	0	0

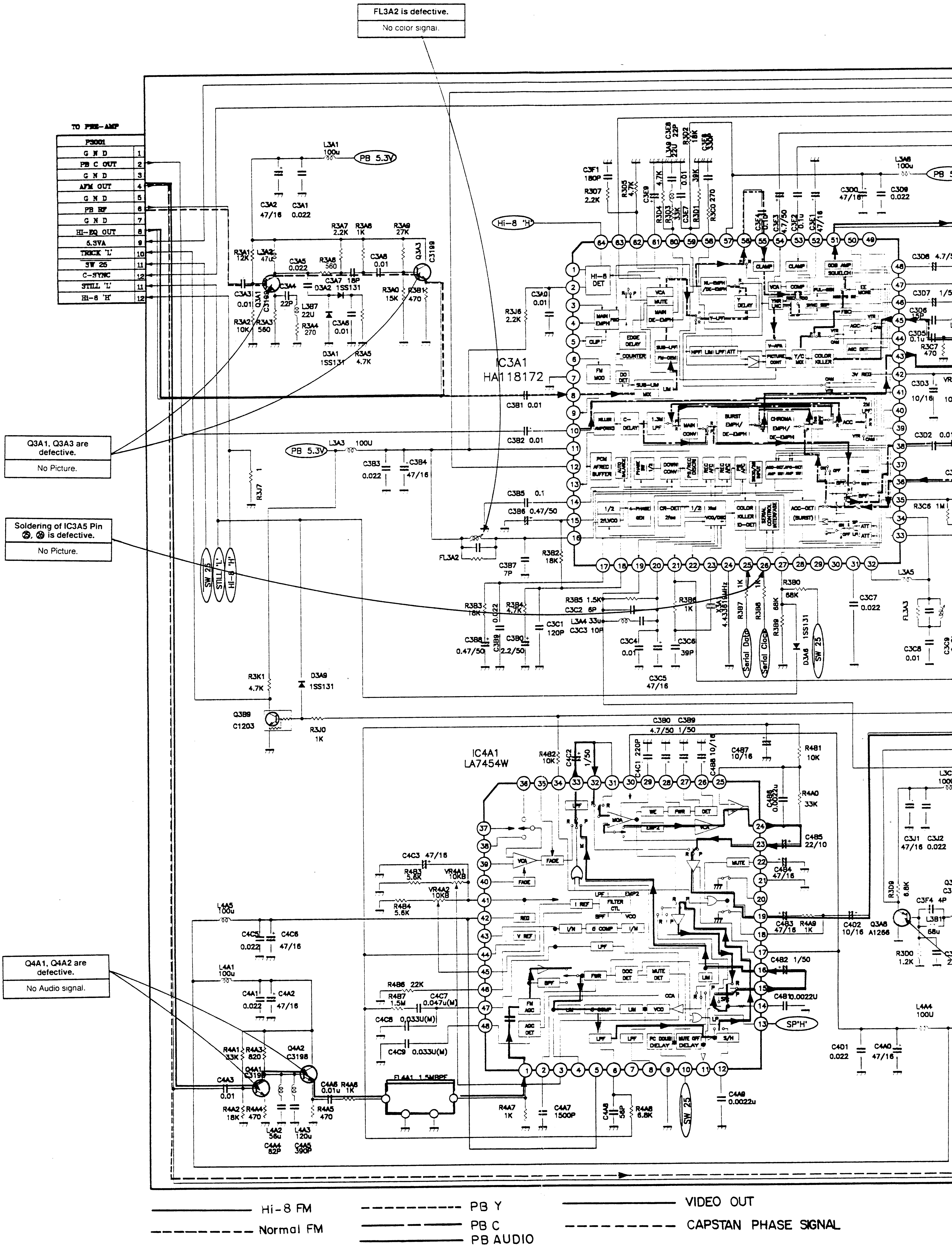
IC506(CXA1512M)

2.2	2.2	5	5.3	5	5	2
14				10		
1				5		
2	2	2	2	2	2	0

IC507(GL7406)

6	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.2	2.2	2.2	2.2	0	2.2	0	2.2
		30					25					20			
1				5					10					15	
0.1	0	0	0	0	0	3.5	5.5	5.5	0	0	6	0	2.2	2.2	0

2-2. Main Analog (Y/C, Audio) Circuit Diagram


TO PRE-AMP
P3001
1 GND
2 PB C OUT
3 GND
4 AFM OUT
5 GND
6 PB RF
7 GND
8 HI-EQ OUT
9 5.3VA
10 TRICK 'L'
11 SW 25
12 C-SYNC
11 STILL 'L'
12 HI-8 'H'
IC3A1
HA118172
IC4A1
LA7454W
PB 5.3V
Hi-8 'H'
SW 25
STILL 'L'
Hi-8 'H'
Serial Data
Serial Clock
SP'H'
FL3A2
FL4A1 1.5MBPF
Q3A1 C3198
Q3A3 C3199
Q3B9 C1203
Q4A1 C3198
Q4A2 C3198
Q3A6 A1266
X3A1 4.433619MHz
D3A2 1SS131
D3A1 1SS131
D3A9 1SS131
D3A6 1SS131
L3A1 100u
L3A3 100U
L4A5 100u
L4A1 100u
L4A4 100U
L3A6 100u

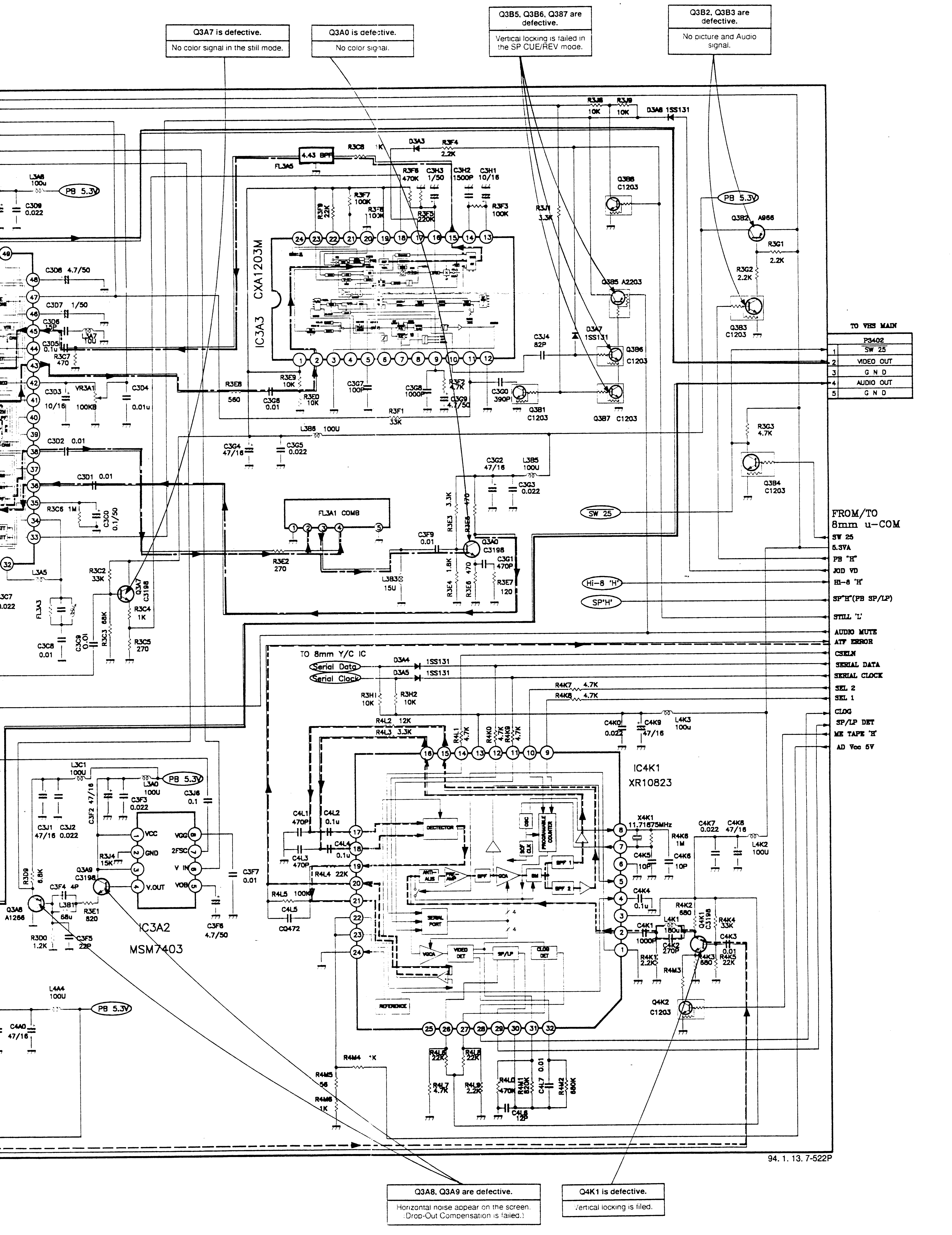
FL3A2 is defective.
No color signal.

Q3A1, Q3A3 are defective.
No Picture.

Soldering of IC3A5 Pin ㉕, ㉖ is defective.
No Picture.

Q4A1, Q4A2 are defective.
No Audio signal.

Hi-8 FM
Normal FM
PB Y
PB C
PB AUDIO
VIDEO OUT
CAPSTAN PHASE SIGNAL



Q3A7 is defective.
No color signal in the still mode.

Q3A0 is defective.
No color signal.

Q3B5, Q3B6, Q3B7 are defective.
Vertical locking is failed in the SP CUE/REV mode.

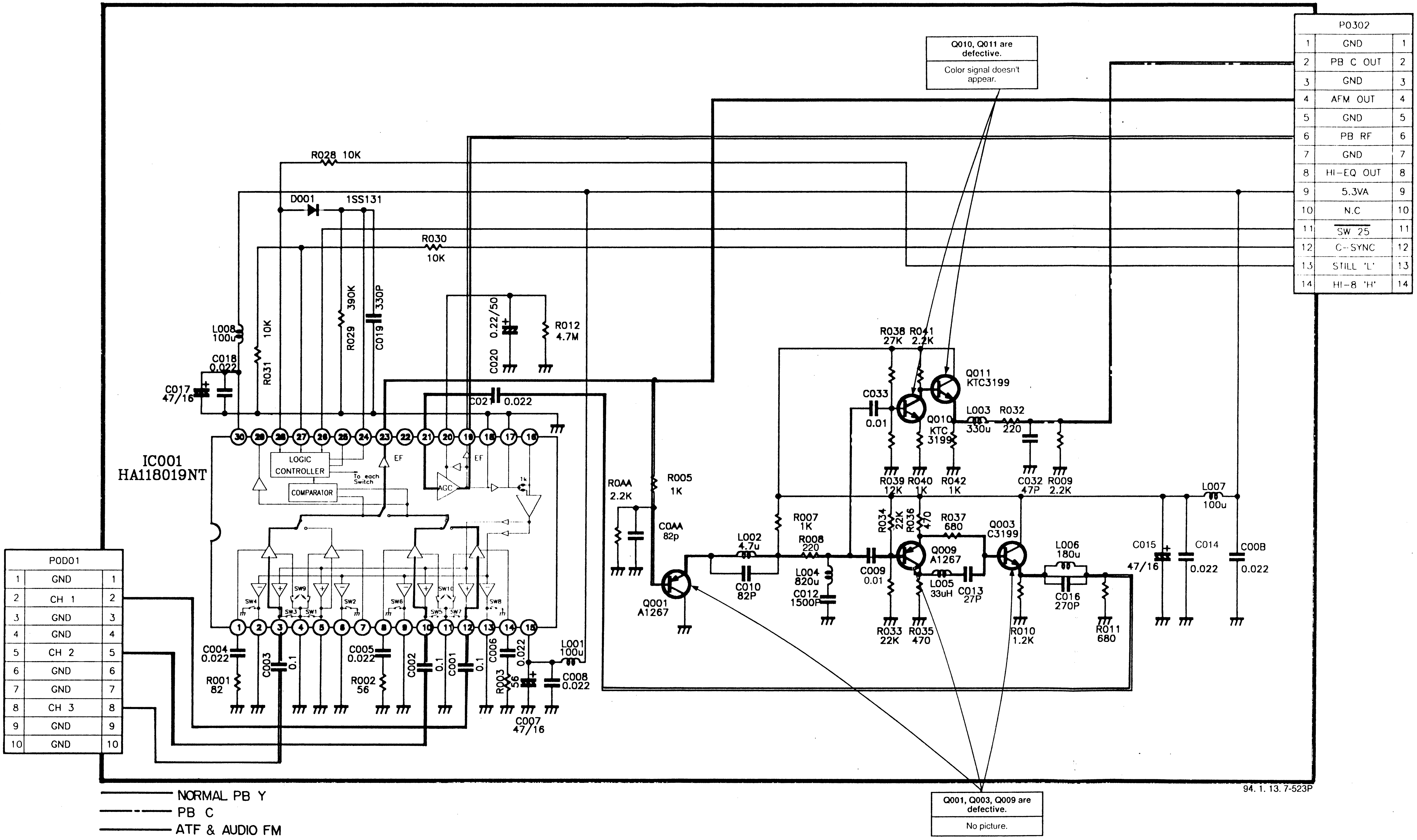
Q3B2, Q3B3 are defective.
No picture and Audio signal.

Q3A8, Q3A9 are defective.
Horizontal noise appear on the screen. (Drop-Out Compensation is failed.)

Q4K1 is defective.
Vertical locking is filed.

IC3A3 CXA1203M
4.43 BPF
FL3A5
FL3A1 COMB
IC3A2 MSM7403
IC4K1 XR10823
X4K1 11.71875MHz
PB 5.3V
SW 25
Hi-8 'H'
SP'H'
TO 8mm Y/C IC
Serial Data
Serial Clock
TO VHS MAIN
P3402
1 SW 25
2 VIDEO OUT
3 G N D
4 AUDIO OUT
5 G N D
FROM/TO 8mm u-COM
SW 25
5.3VA
PB 'H'
JOD VD
Hi-8 'H'
SP'H'(PB SP/LP)
STILL 'L'
AUDIO MUTE
ATF ERROR
CSELN
SERIAL DATA
SERIAL CLOCK
SEL 2
SEL 1
CLOG
SP/LP DET
ME TAPE 'H'
AD Vcc 5V
Q3A0 C3198
Q3A7 C3198
Q3A8 A1266
Q3A9 C3198
Q3B1 C1203
Q3B2 A966
Q3B3 C1203
Q3B4 C1203
Q3B5 A2203
Q3B6 C1203
Q3B7 C1203
Q3B8 C1203
Q4K1 C3198
Q4K2 C1203
D3A7 1SS131
D3A8 1SS131
D3A4 1SS131
D3A5 1SS131
94. 1. 13. 7-522P

2-3. Pre-Amp Circuit Diagram



P0302
1 GND 1
2 PB C OUT 2
3 GND 3
4 AFM OUT 4
5 GND 5
6 PB RF 6
7 GND 7
8 HI-EQ OUT 8
9 5.3VA 9
10 N.C 10
11 SW 25 11
12 C-SYNC 12
13 STILL 'L' 13
14 HI-8 'H' 14
PD001
1 GND 1
2 CH 1 2
3 GND 3
4 GND 4
5 CH 2 5
6 GND 6
7 GND 7
8 CH 3 8
9 GND 9
10 GND 10
IC001
HA118019NT
LOGIC CONTROLLER
COMPARATOR
To each Switch
AGC
EF
1k
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
R028 10K
D001 1SS131
R030 10K
R031 10K
R029 390K
C019 330P
C020 0.22/50
R012 4.7M
L008 100u
C018 0.022
C017 47/16
C021 0.022
C004 0.022
R001 82
C003 0.1
C005 0.022
R002 56
C002 0.1
C001 0.1
C006 0.022
R003 56
C007 47/16
C008 0.022
L001 100u
R0AA 2.2K
R005 1K
C0AA 82p
Q001 A1267
L002 4.7u
C010 82P
R007 1K
R008 220
L004 820u
C012 1500P
C009 0.01
R033 22K
R034 22K
R036 470
R035 470
R037 680
Q009 A1267
L005 33uH
C013 27P
Q003 C3199
R010 1.2K
L006 180u
C016 270P
R011 680
C015 47/16
C014 0.022
C008 0.022
L007 100u
R038 27K
R041 2.2K
C033 0.01
Q010 KTC 3199
Q011 KTC3199
L003 330u
R032 220
R039 12K
R040 1K
R042 1K
C032 47P
R009 2.2K
94. 1. 13. 7-523P
A
B
C
D
E
F
G
H
1
2
3
4
5

Q010, Q011 are defective.

Color signal doesn't appear.

Q001, Q003, Q009 are defective.

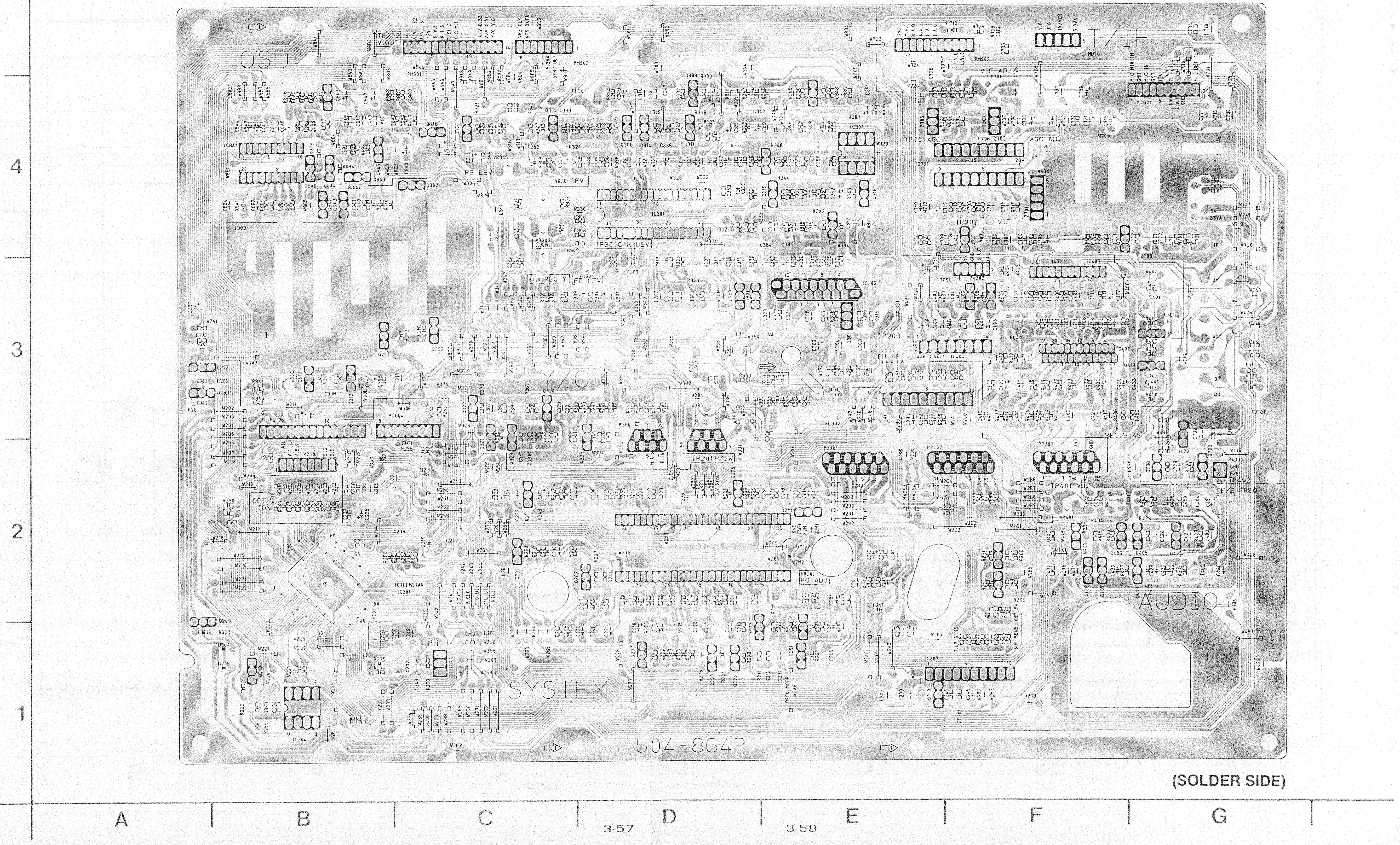
No picture.

NORMAL PB Y
PB C
ATF & AUDIO FM

PRINTED CIRCUIT BOARD DIAGRAMS

1. VHS Printed Circuit Board

1-1. Main P.C.Board


OSD
Y/C
SYSTEM
AUDIO
T/IF
504-864P
TP202 V.OUT
TP301CAR/DEV
TP201H/SW
VR201 PG ADJ
VIF ADJ
AGC ADJ
REC BIAS
F/E FREQ
5
4
3
2
1
A
B
C
D
E
F
G

(SOLDER SIDE)

5

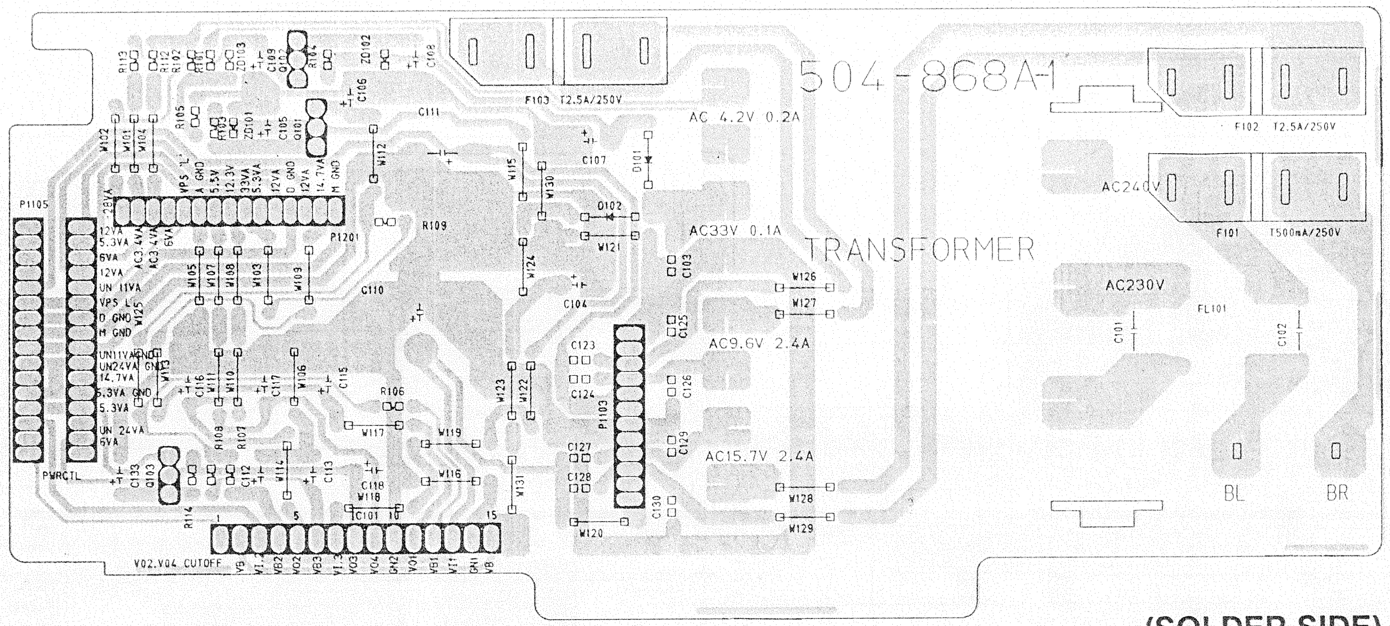
4

3

2

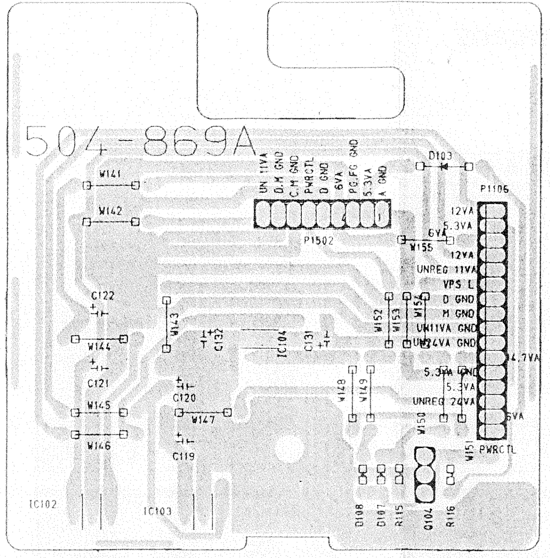
1

1-2. Power 1 P.C.Board


504-868A-1
TRANSFORMER
F103 T2.5A/250V
F102 T2.5A/250V
F101 T500mA/250V
AC 4.2V 0.2A
AC33V 0.1A
AC9.6V 2.4A
AC15.7V 2.4A
AC240V
AC230V
FL101
P1105
P1201
P1103
PWRCTL
V02,V04 CUTOFF
BL
BR

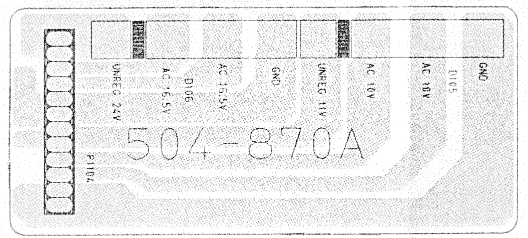
(SOLDER SIDE)

1-3. Power 2 P.C.Board


504-869A
P1502
P1105
PWRCTL
IC102
IC103

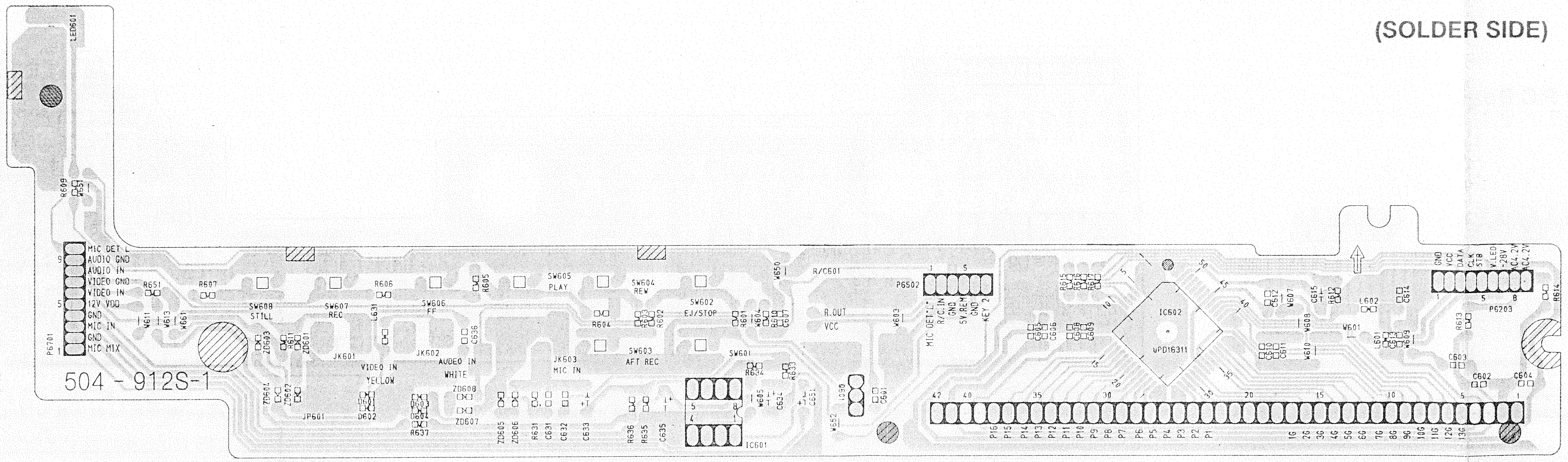
(SOLDER SIDE)

1-4. Power 3 P.C.Board


504-870A
P1104

(SOLDER SIDE)

1-5. Timer (I) P.C.Board


504 - 912S-1
LED601
P6701
SW608 STILL
SW607 REC
SW606 FF
SW605 PLAY
SW604 REW
SW602 EJ/STOP
SW603 AFT REC
SW601
JK601 VIDEO IN YELLOW
JK602 AUDIO IN WHITE
JK603 MIC IN
IC601
IC602
uPD16311
R/C601
P6502
P6203

(SOLDER SIDE)

A B C D E F G H

5

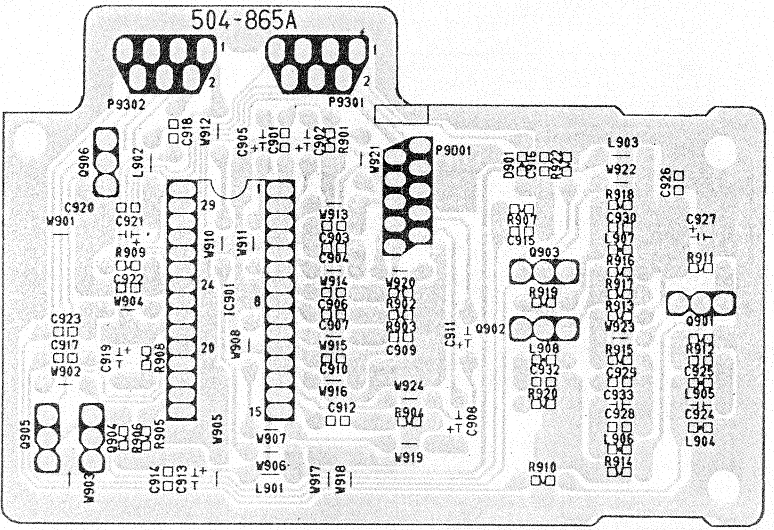
4

3

2

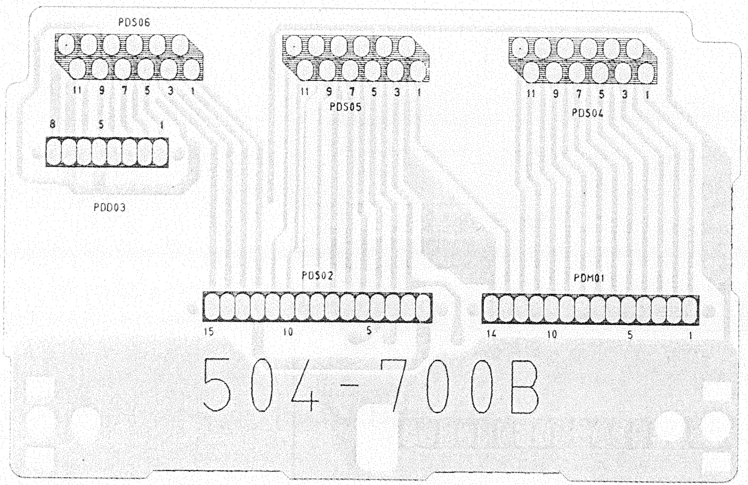
1

1-6. Pre-Amp P.C.Board


504-865A
P9302
P9301
P9001
IC901
L903
L901
L902

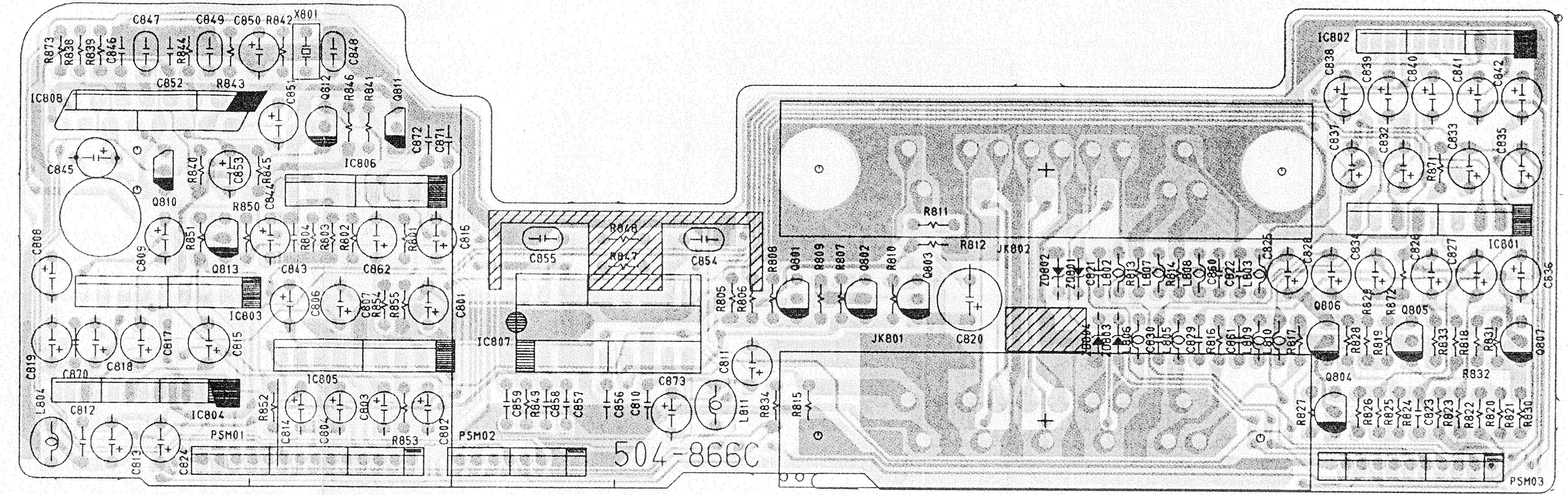
(SOLDER SIDE)

1-7. Deck Junction P.C.Board

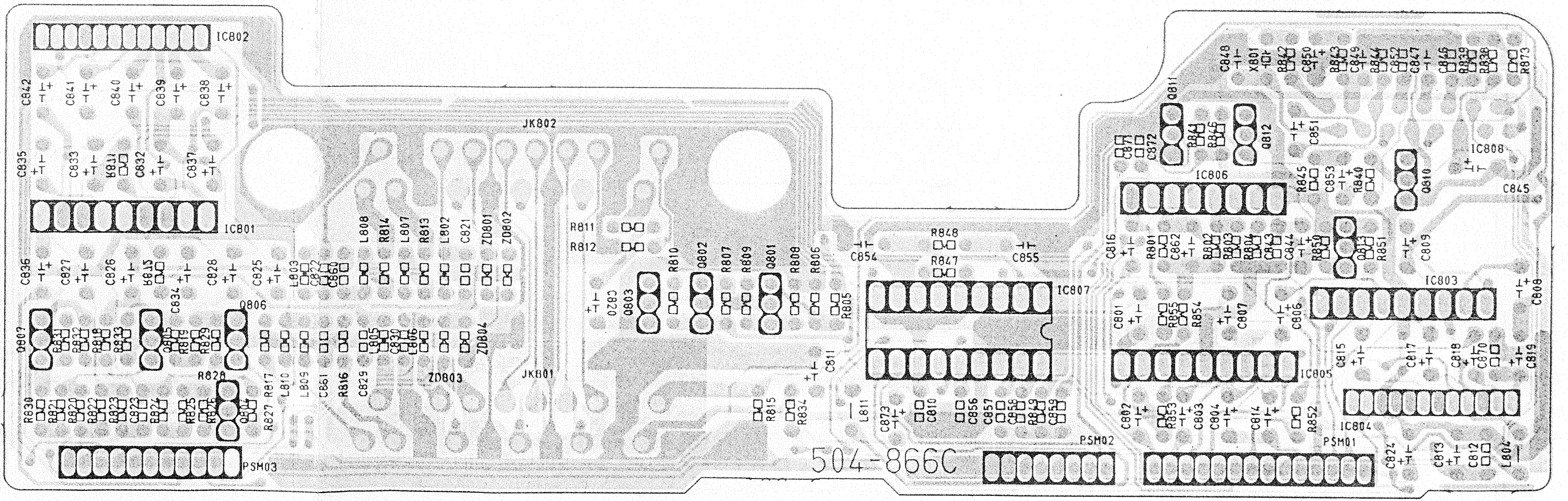

PDS06
PDS05
PDS04
PD003
PDS02
PDM01
504-700B

(SOLDER SIDE)

1-8. Scart In/Out P.C.Board


IC808
IC806
IC803
IC805
IC804
IC807
IC801
IC802
JK801
JK802
PSM01
PSM02
PSM03
504-866C

(PARTS SIDE)

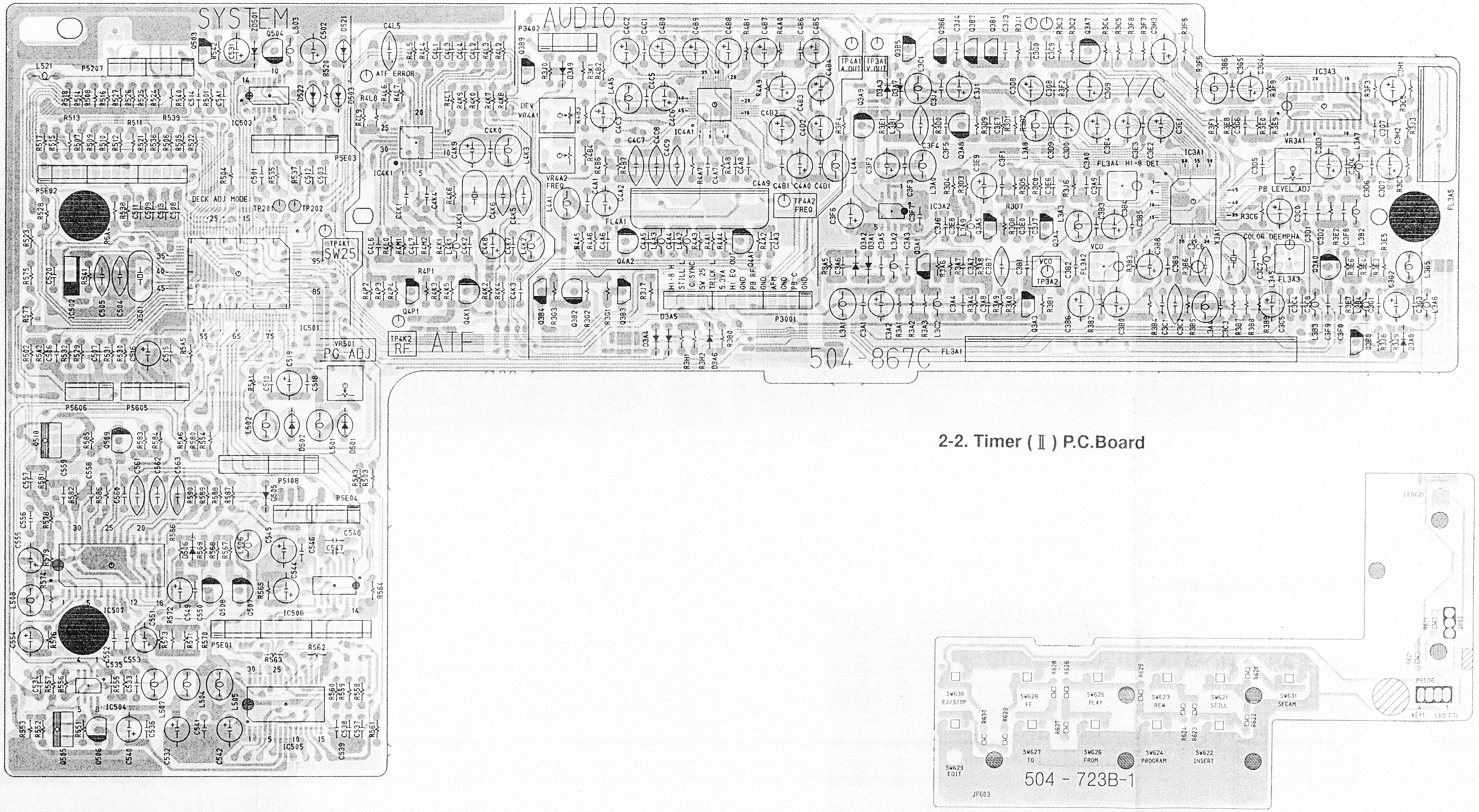

IC802
IC801
IC808
IC806
IC807
IC803
IC805
IC804
JK802
JK801
PSM01
PSM02
PSM03
504-866C

(SOLDER SIDE)

A B C D E F G H

2. 8mm Printed Circuit Board

2-1. Main P.C.Board


SYSTEM
AUDIO
Y/C
ATF
PG ADJ
DECK ADJ MODE
PB LEVEL ADJ
COLOR DEEMPHA
504-867C

(PARTS SIDE)

2-2. Timer (Ⅱ) P.C.Board

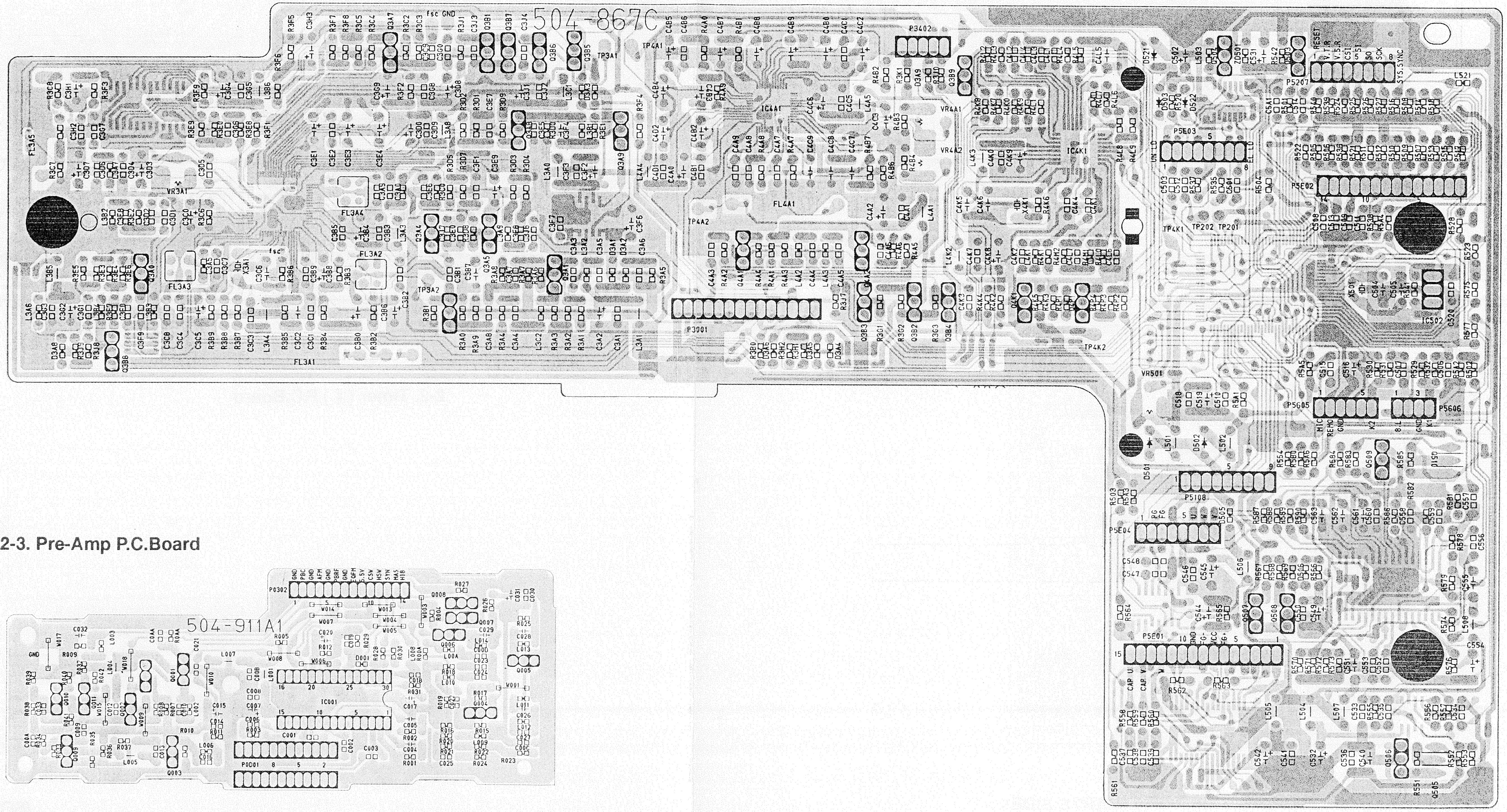
SW630 EJ/STOP
SW628 FF
SW625 PLAY
SW623 REW
SW621 STILL
SW631 SECAM
SW627 TO
SW626 FROM
SW624 PROGRAM
SW622 INSERT
SW629 EDIT
JP603
P6506
504 - 723B-1

(SOLDER SIDE)

5
4
3
2
1

A B C D E F G H

Main P.C.Board


504-867C
(SOLDER SIDE)

2-3. Pre-Amp P.C.Board

504-911A1

(SOLDER SIDE)

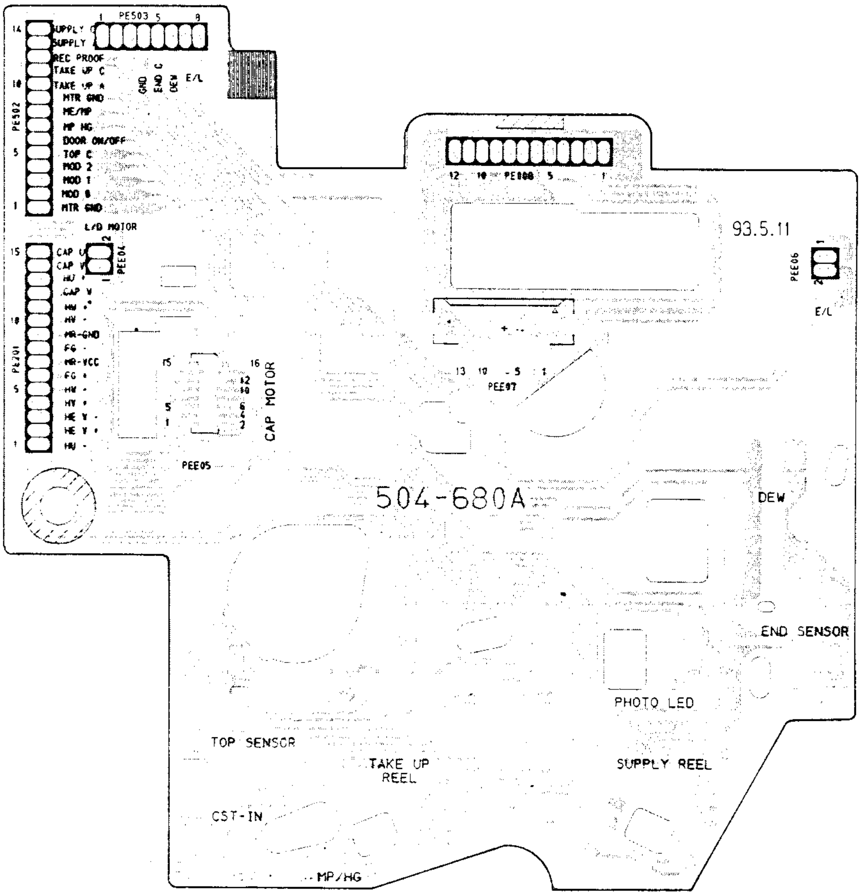
5
4
3
2
1
A
B
C
D
E
F
G
H

5

2-4. Deck Junction P.C.Board

4

3


PE503
1
5
9
14
SUPPLY C
SUPPLY
REC PROOF
TAKE UP C
10
TAKE UP A
MTR GND
ME/MP
MP HG
DOOR ON/OFF
5
TOP C
MOD 2
MOD 1
MOD 0
1
MTR GND
PE502
GND
END C
DEW
E/L
L/D MOTOR
PEE04
15
CAP U
CAP V
HU +
CAP W
HW +
HV -
10
MR-GND
FG -
MR-VCC
FG +
5
HW -
HV +
HE V -
HE V +
1
HU -
PE201
15
16
12
10
5
6
4
1
2
CAP MOTOR
PEE05
12
10
PE808
5
1
93.5.11
PEE06
E/L
13
10
5
1
PEE07
504-680A
DEW
END SENSOR
PHOTO LED
TOP SENSOR
TAKE UP REEL
SUPPLY REEL
CST-IN
MP/HG

(SOLDER SIDE)

2

1

A B C D

SECTION 4
MECHANISM

GoldStar

VHS PAL SECAM SERVICE MANUAL

CONTENTS

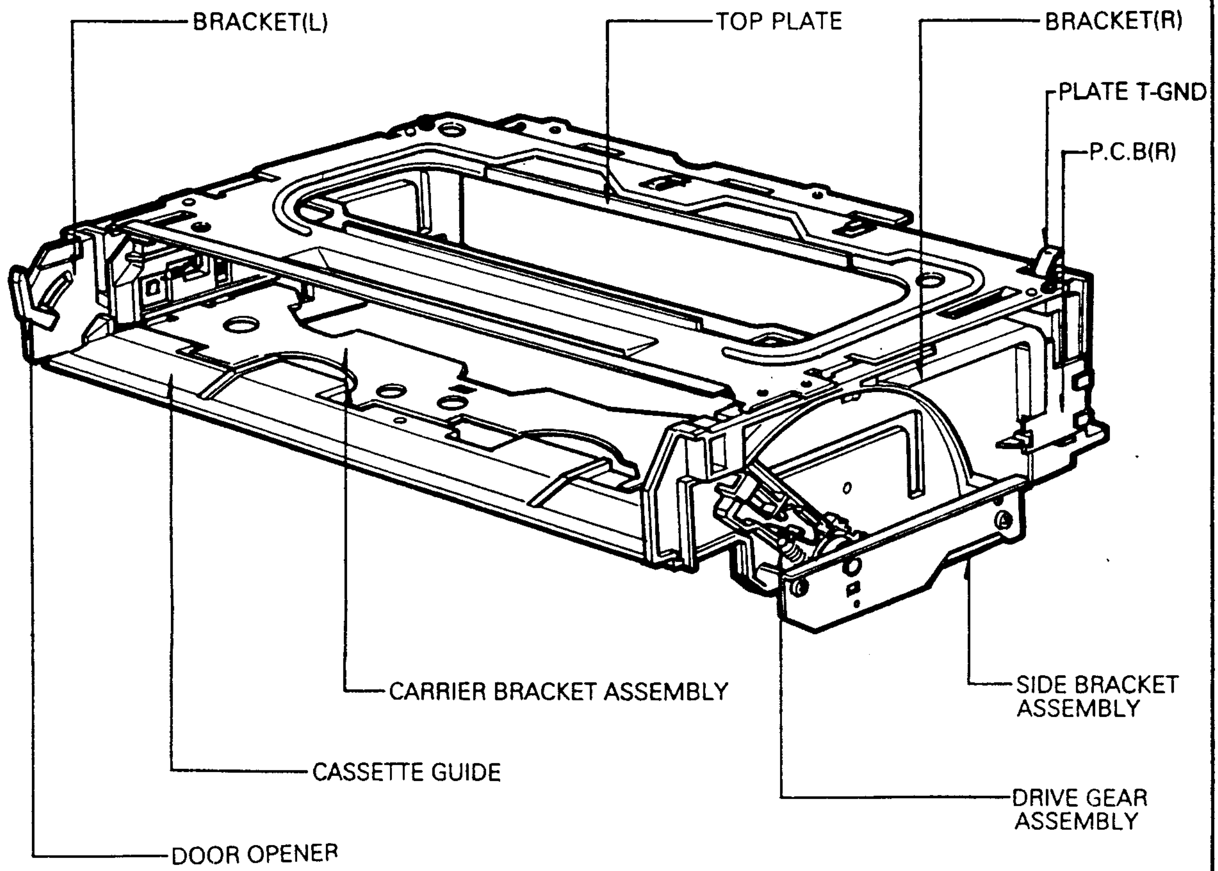
SECTION 4-1
  VHS DECK MECHANISM
SECTION 4-2
  8mm DECK MECHANISM

GoldStar

SECTION 4-1. VHS DECK MECHANISM

FRONT LOADING MECHANISM DISASSEMBLY

- **Front Loading Mechanism Parts Location**


BRACKET(L)
TOP PLATE
BRACKET(R)
PLATE T-GND
P.C.B(R)
CARRIER BRACKET ASSEMBLY
SIDE BRACKET ASSEMBLY
CASSETTE GUIDE
DRIVE GEAR ASSEMBLY
DOOR OPENER

Front Loading Mechanism Parts Location

1. Component list below will be discribed as if the top and bottom covers and the front panel have already been removed.
2. P.C.B Assembly
3. Top Plate
4. Carrier Bracket Assembly
5. Cassette Guide
6. Side Bracket Assembly
7. Bracket(L), (R)
8. Door Opener
9. Drive Gear Assembly

1. Front Loading Mechanism Assembly (Fig. A-1-1)

1) Remove the Top and Bottom Covers and the Front panel.
2) Unplug the connector.
3) Remove two screws(A).
4) Lift up the Front Loading Mechanism in the direction of arrow(C).

• NOTE

1) When disassembling and reassembling

① Give special attention to removal. because two tabs(D) are engaged.

② Make sure that Bosses of Bracket(L),(R) are properly engaged in the holes of the chassis.

③ To reassemble Front Loading Mechanism, the Drive Gear Assembly should be turned in a counterclockwise as shown in Fig. A-1-2 so that the Rack Gear N.D of Front Loading Mechanism Assembly is meshed into Rack Gear F.L of Deck Mechanism Assembly correctly as shown in Fig. A-1-1.(B).

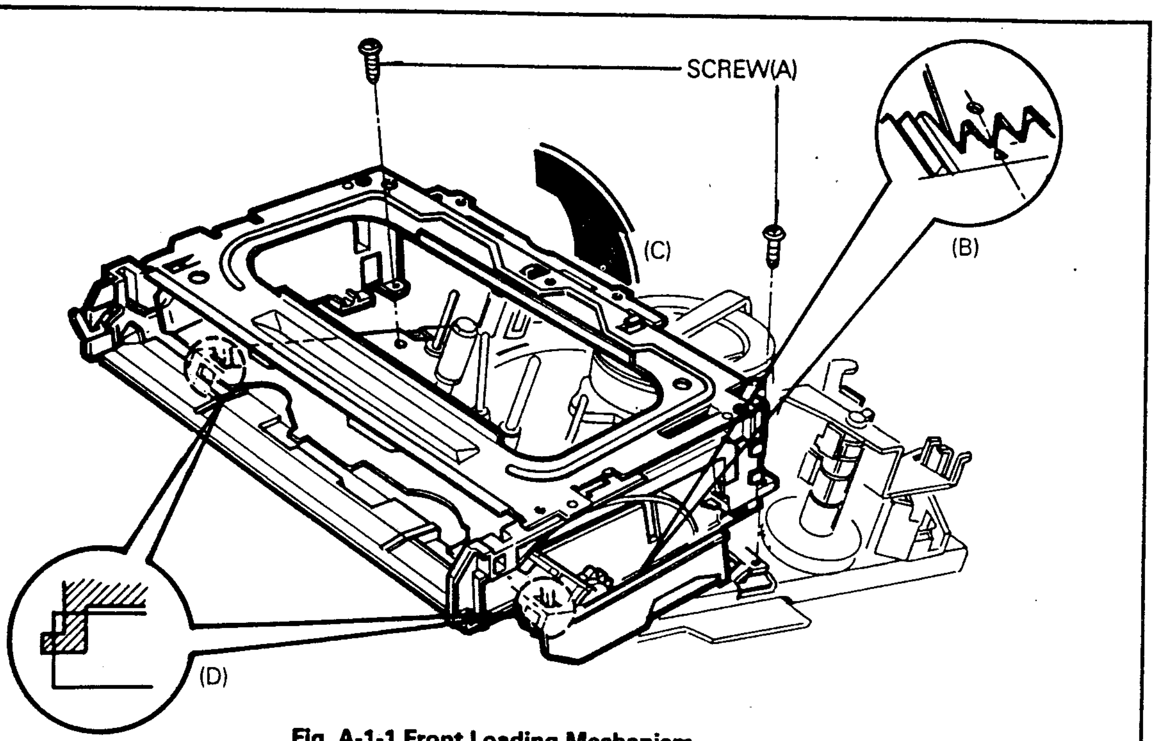
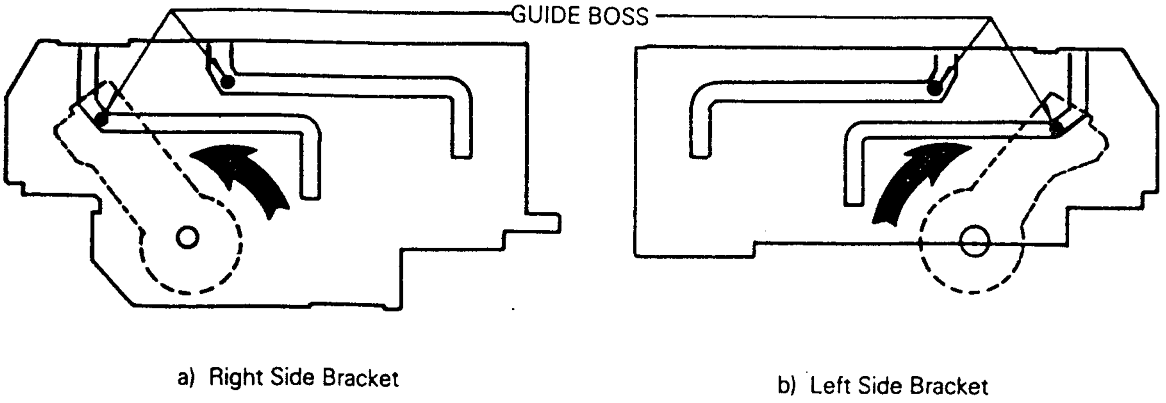


Fig. A-1-1 Front Loading Mechanism



a) Right Side Bracket

b) Left Side Bracket

Fig. A-1-2 Carrier Bracket Assembly

2. PCB(Printed Circuit Board) Assembly

2-1. P.C.B Assembly(R)(Fig. A-2)

1) Remove the PCB Assembly(R) by pushing three Hooks (A) outward.
2) Release the Lead wire from stoppers.

2-2. PCB Assembly(L).(Fig. A-2)

1) Remove the PCB Assembly(L) by pushing the Hook(B) outward.
2) Release the Lead Wire from stoppers.

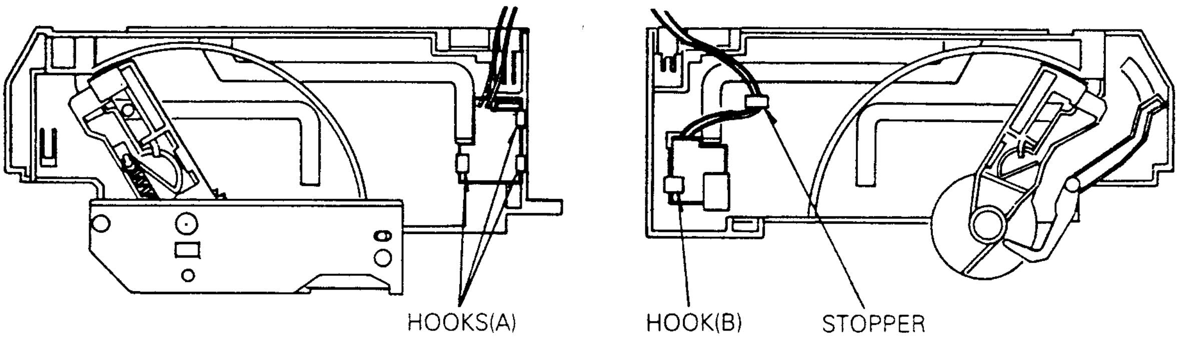


Fig. A-2 PCB Assembly

3. Top Plate(Fig. A-3)

1) Remove two screws(A).
2) Push the upper part of Top plate Ground and then lift up the Top Plate.

*** NOTE**

1) When reassembling, be certain that the tabs(C) of Top Plate is in both Bracket(L),(R).

① Then align the guide holes(D) of Top Plate with Bosses of side Bracket(L),(R).

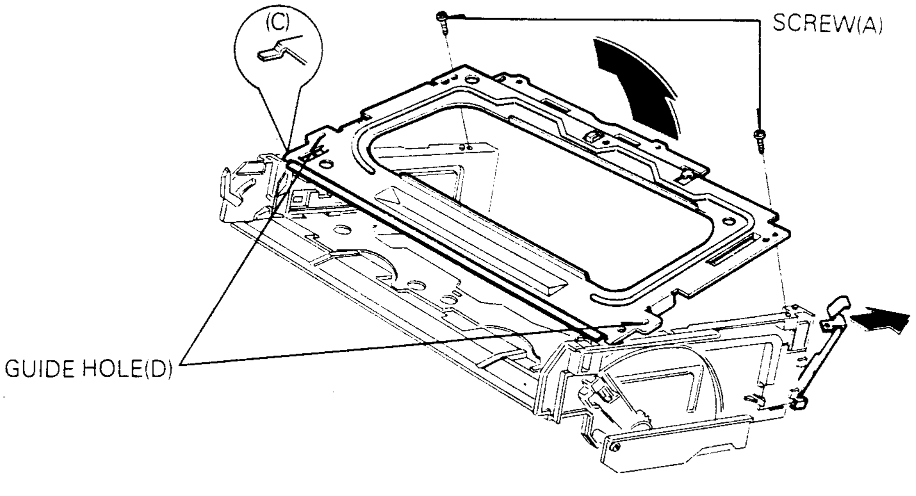


Fig. A-3 Top Plate

4. Carrier Bracket Assembly

4-1. Carrier Bracket Assembly(Fig. A-4-1)

1) Remove the Carrier Bracket Assembly by moving it in the direction of arrow(C).

*** NOTE**

1) When reassembling, be sure that parts(A) of Carrier Bracket Assembly are seated in parts(B) of Bracket(L),(R).

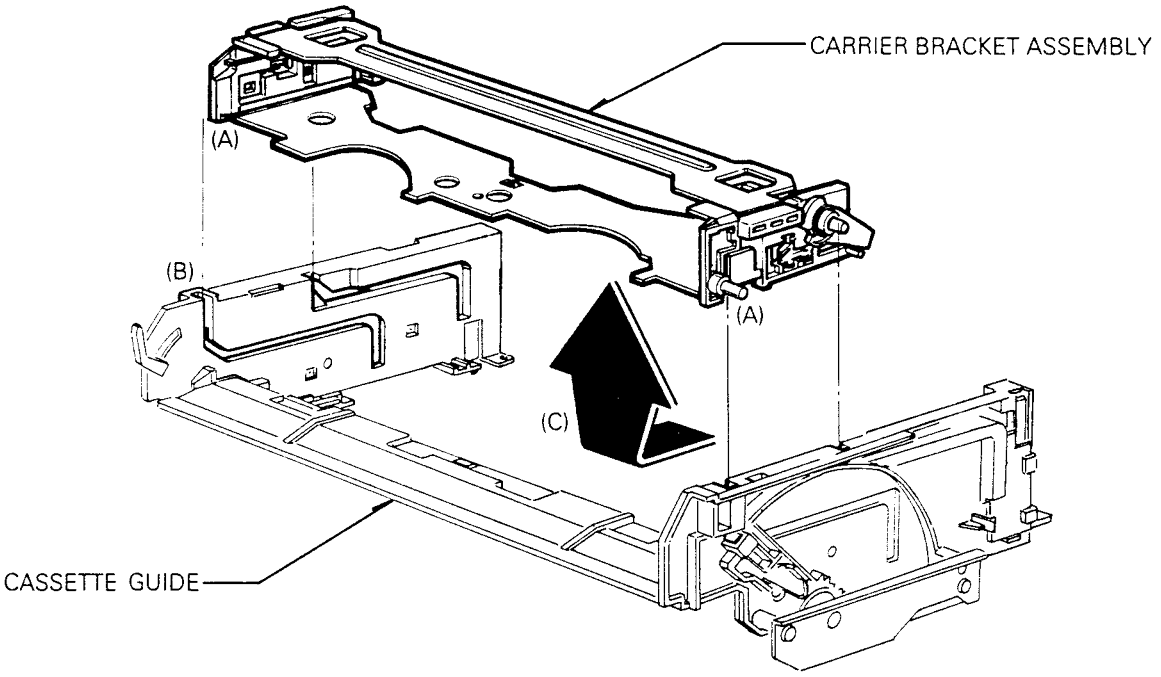

CARRIER BRACKET ASSEMBLY
(A)
(B)
(A)
(C)
CASSETTE GUIDE

Fig. A-4-1 Carrier Bracket Assembly

4-2. Cassette Opener(Fig. A-4-2)

1) Release the spring O.C from the Hook(A) and then release it from Hook(C) of cassette opener.
2) Remove the cassette opener by releasing the Hook(B) from the Holder(R).

4-3. Lid Opener(Fig. A-4-2)

1) Remove the lid opener by pushing it outward.

*** NOTE**

1) When reassembling, seat the upper part of the lid opener in the grooved of Holder(R) and push it inward.

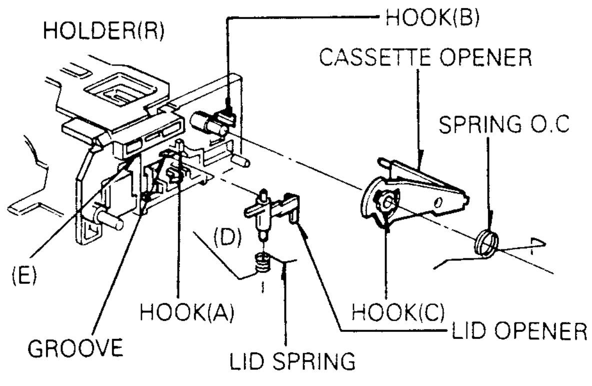

HOLDER(R)
HOOK(B)
CASSETTE OPENER
SPRING O.C
(D)
(E)
HOOK(A)
HOOK(C)
LID OPENER
GROOVE
LID SPRING

Fig. A-4-2. Cassette Door Opener/Lid Opener

4-4. Detect Lever and Detect Spring

1) Remove the spring detect.
2) Lower the side(A) of Detect Lever and then remove the Detect Lever by pushing it outward.

*** NOTE**

1) When reassembling, make sure that the part(C) of Detect Lever set in the part(B) of Holder(R).

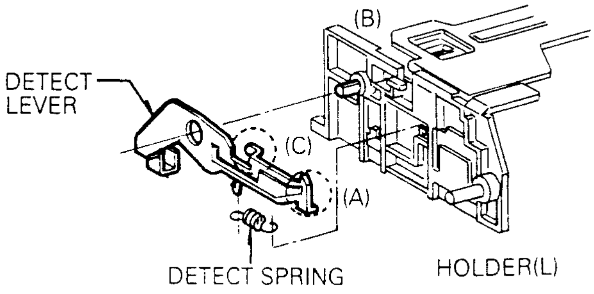

(B)
DETECT LEVER
(C)
(A)
DETECT SPRING
HOLDER(L)

Fig. A-4-3 Detect Lever, Detect Spring

4-5. Bracket Support (Fig. A-4-4)

1) Take the Support Bracket out by releasing hooks(A),(B).

*** NOTE**

1) When disassembling and reassembling, be careful because heavy force can damage the hooks.

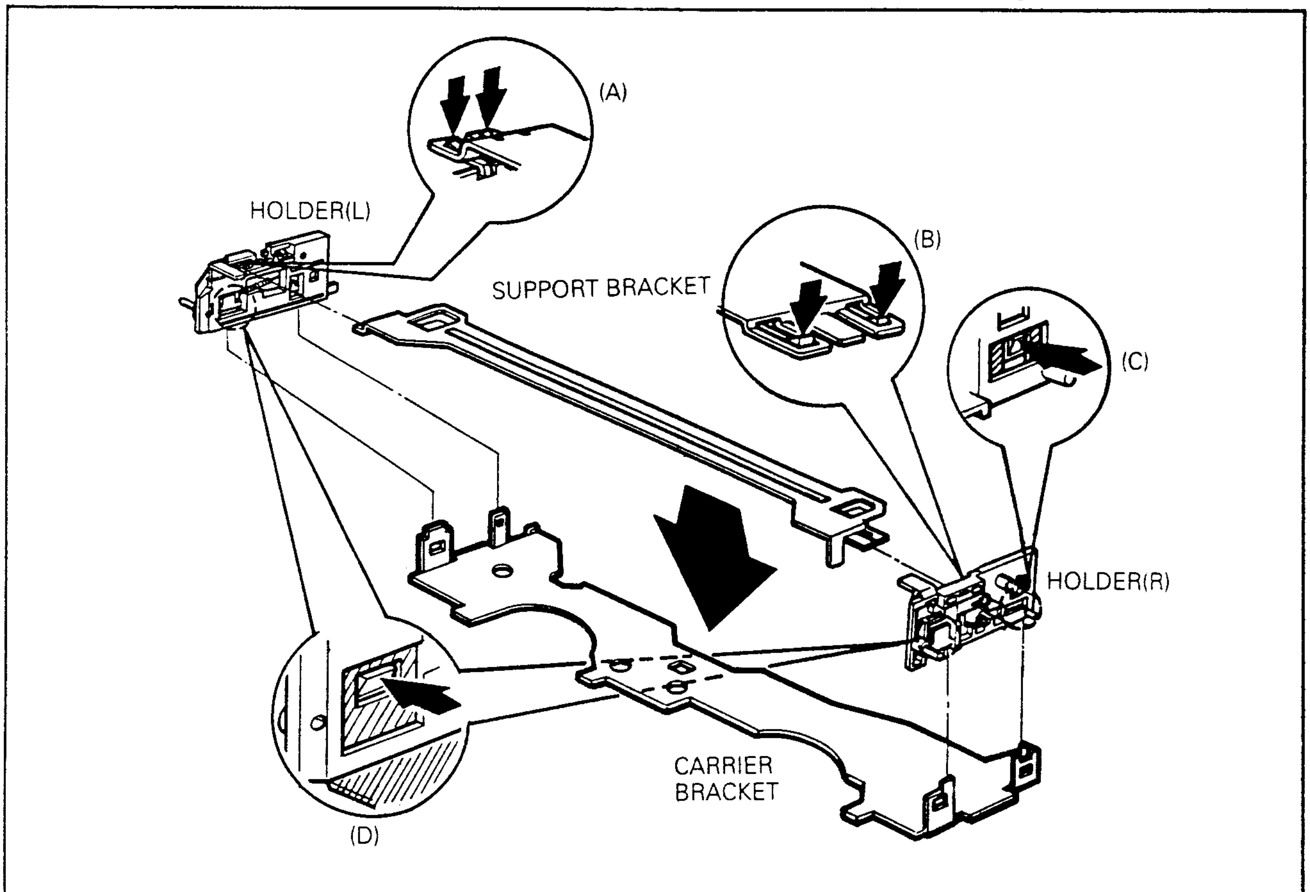

(A)
HOLDER(L)
(B)
SUPPORT BRACKET
(C)
HOLDER(R)
CARRIER
BRACKET
(D)

Fig. A-4-4 Bracket Support/Bracket Carrier

4-6. Carrier Bracket Assembly(Fig. A-4-4)

1) Remove the Carrier Bracket by releasing hooks(C),(D).

5. Cassette Guide(Fig. A-5)

1) Remove the Switch Spring with the Front Loading Mechanism Assembly turned over.
2) Push two hooks(B) outward.
3) Remove the Cassette Guide by pushing two hooks(A). outward(if one is removed, the other will be easy to remove)

*** NOTE**

1) When reassembling

① Seat projections(E) of Cassette Guide in holes of Bracket Assembly(L),(R) and then engage the Hook(A).

② After finishing previous step, fix the Cassette Guide to the Bracket Assembly(L),(R) by pushing two hooks(B) inward.

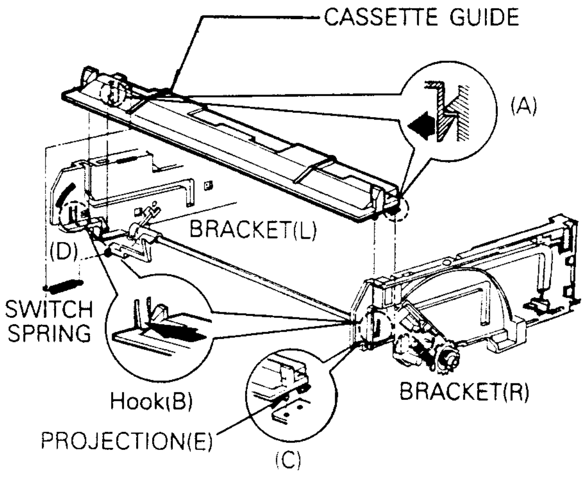

CASSETTE GUIDE
(A)
BRACKET(L)
(D)
SWITCH
SPRING
Hook(B)
BRACKET(R)
PROJECTION(E)
(C)

Fig. A-5 Cassette Guide

6. Bracket Assembly Side (Fig. A-6-1)

1) Remove two screws(A) and then remove the Side Bracket Assembly and the Rack Gear N.D.

*** NOTE**

1) When reassembling

① Turn the Drive Gear Assembly in the direction of arrow (C).

② Reassemble the Rack Gear N.D. to the Side Bracket Assembly, as shown in Fig. A-6-2, and then reassemble it to the Bracket Assembly(L). This time the Assembling Figure should be the same as(B) at the rectangular hole of Bracket Side.

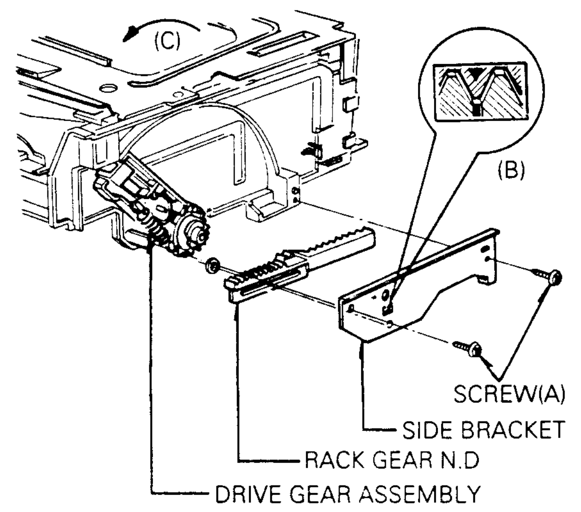

(C)
(B)
SCREW(A)
SIDE BRACKET
RACK GEAR N.D
DRIVE GEAR ASSEMBLY

Fig. A-6-1 Side Bracket Assembly

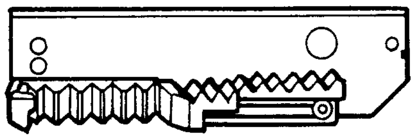


Fig. A-6-2

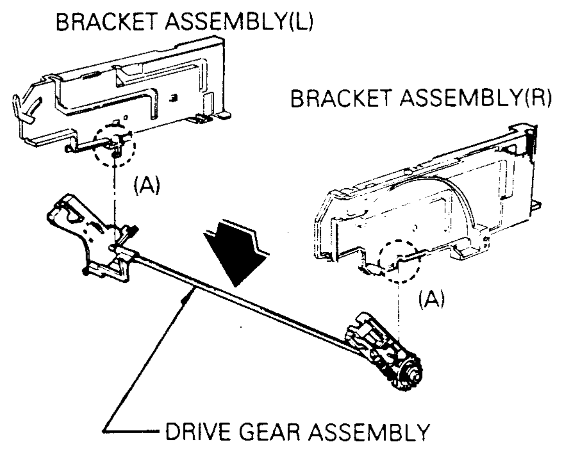

BRACKET ASSEMBLY(L)
BRACKET ASSEMBLY(R)
(A)
(A)
DRIVE GEAR ASSEMBLY

Fig. A-7 Bracket Assembly(L),(R)

7. Bracket Assembly(L),(R)(Fig. A-7)

1) Seperate the Bracket Assembly(L),(R) from the Gear Assembly Drive.

*** NOTE**

1) When reassembling, seat the shaft in the part(A) of Bracket Assembly(L),(R).

8. Door Opener(Fig. A-8)

1) Remove the Door Opener by pushing Hook(A) outward.

*** NOTE**

1) When reassembling, seat the part(B) of Door Opener in the hole( ) of Bracket(L).

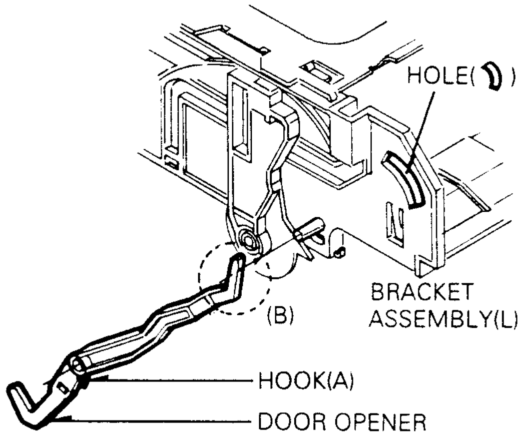

HOLE( )
(B)
BRACKET ASSEMBLY(L)
HOOK(A)
DOOR OPENER

Fig. A-8 Door Opener

9. Drive Gear Assembly

9-1. Drive Gear Assembly(Fig. A-9-1)

1) Remove the Drive Gear Assembly from the Bracket Assembly(L),(R).

9-2. Cushion Spring(Fig. A-9-1)

1) Remove the cushion spring from the Gear R .

9-3. Cap-D(Fig. A-9-1)

1) Remove the Cap-D by lifting it up.

9-4. Spring C.C(Fig. A-9-1)

1) Remove the Spring C.C from the Gear R.

9-5. Gear C(Fig. A-9-1)

1) Remove the Gear C by lifting up when the projection of Gear C is aligned with the hole of Gear R while rotating the Gear C in the counterclockwise direction.

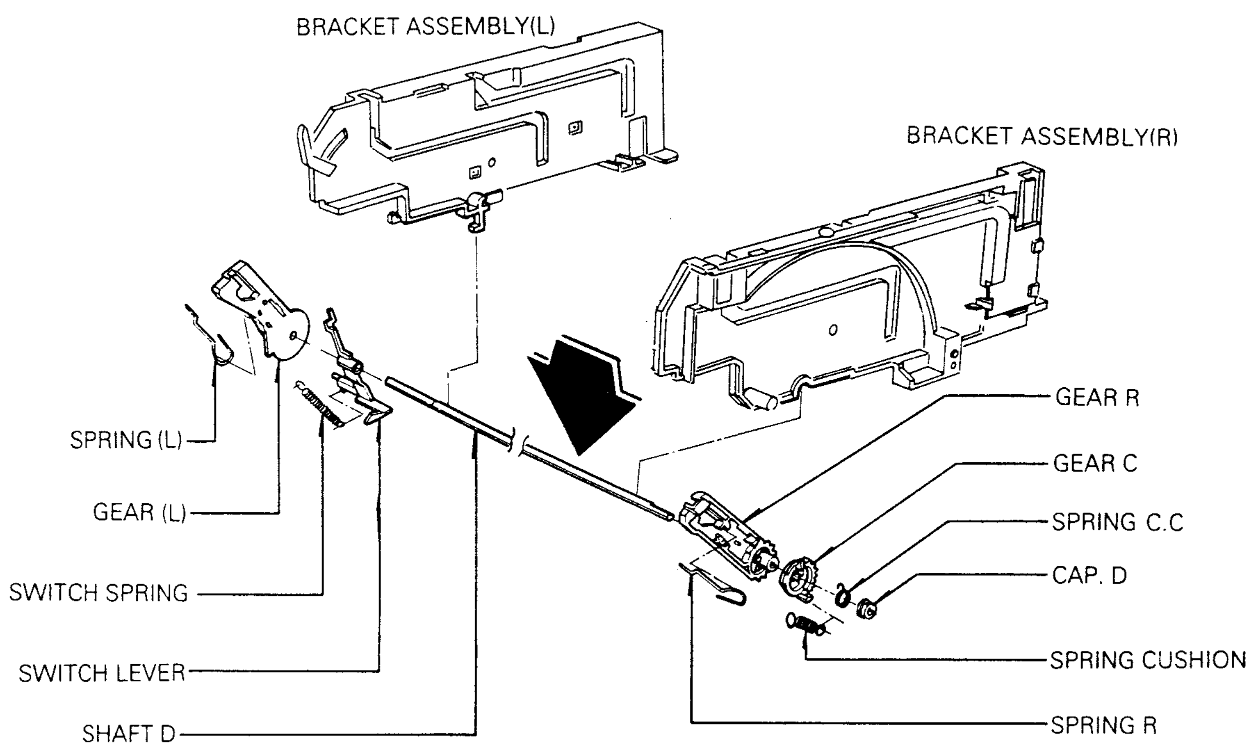

BRACKET ASSEMBLY(L)
BRACKET ASSEMBLY(R)
GEAR R
GEAR C
SPRING C.C
CAP. D
SPRING CUSHION
SPRING R
SPRING (L)
GEAR (L)
SWITCH SPRING
SWITCH LEVER
SHAFT D

Fig. A-9-1 Gear Assembly Drive

*** NOTE**

1) When reassembling, seat the projections of Gear R in the holes of Gear C when the projection of Gear R is aligned with the hole of Gear C, and then keep the Gear C turned in the clockwise direction.

9-6. Gear R(Fig. A-9-1)

1) Lift up the Gear R from the Shaft.

9-7. Spring R(Fig. A-9-2)

1) Remove the Spring R by releasing Hooks.

*** NOTE**

1) When reassembling, be certain Spring R in the part(A) of Gear R.

9-8. Gear L.(Fig. A-9-1)

1) Remove the Gear L from the shaft.

9-9. Spring L (Fig. A-9-2)

1) Remove the Spring L by releasing Hooks from the Gear L.

*** NOTE:**(Refer to the Spring R Section)

9-10. Switch Lever(Fig. A-9-1)

1) Remove the Switch Lever from the shaft.

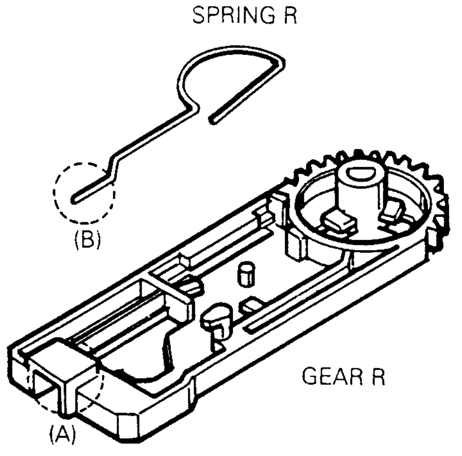
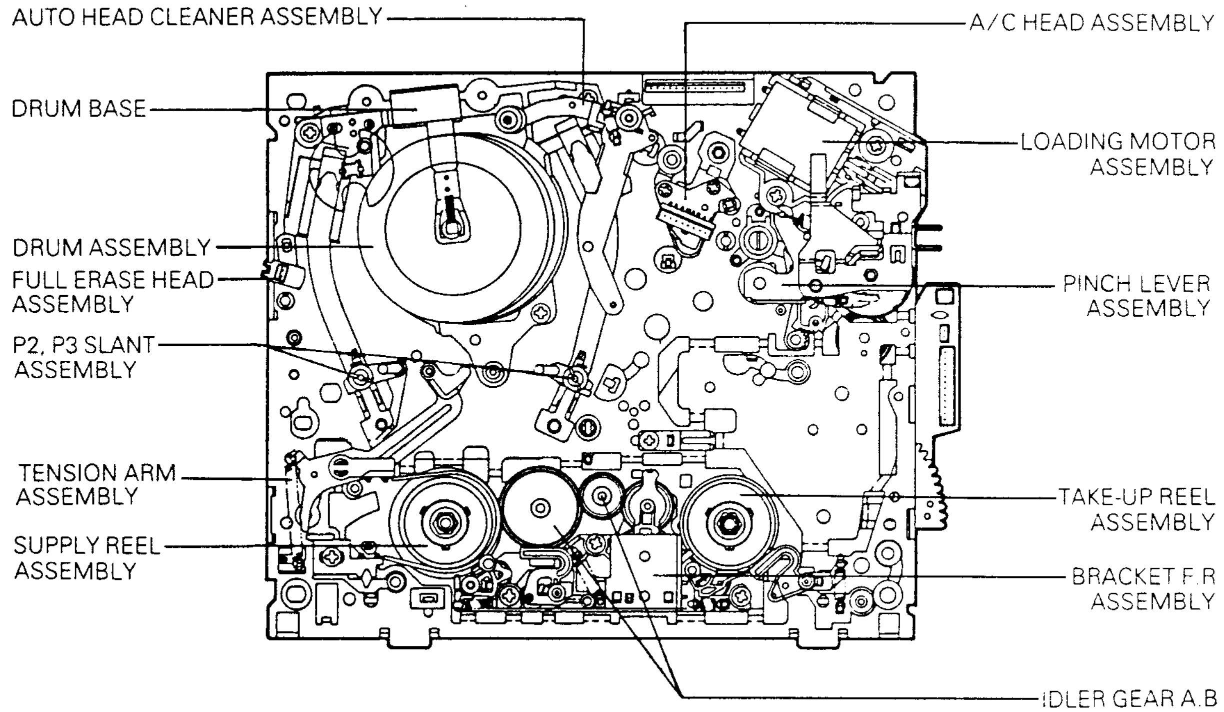

SPRING R
(B)
GEAR R
(A)

Fig. A-9-2 Spring R

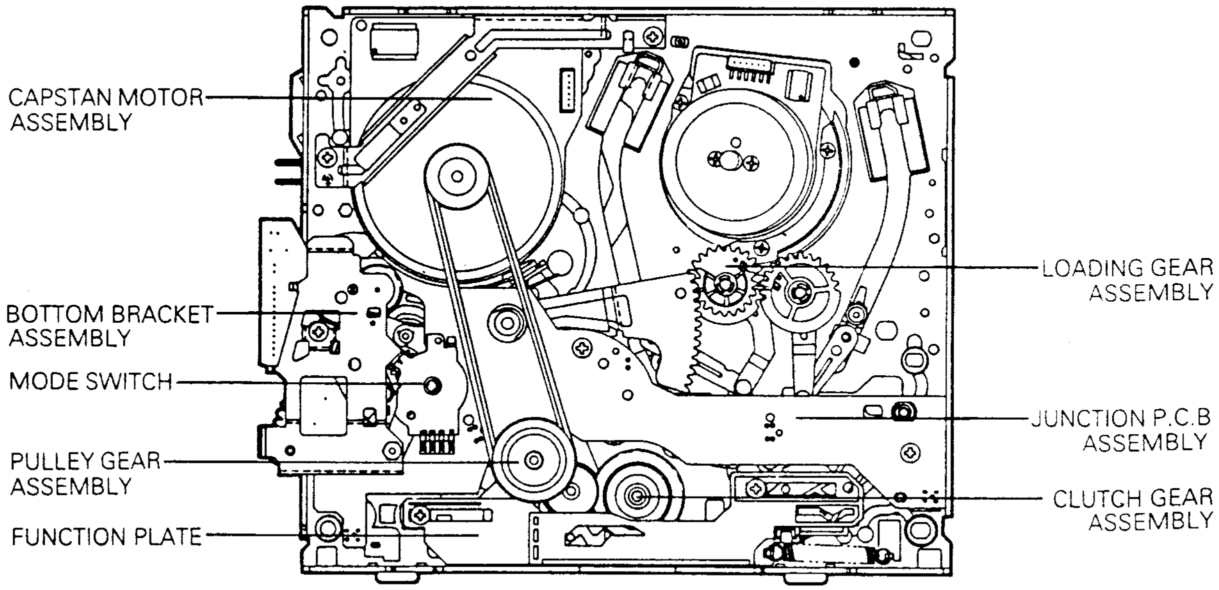
DECK MECHANISM DISASSEMBLY

• Deck Mechanism Parts Location

Top Side


AUTO HEAD CLEANER ASSEMBLY
A/C HEAD ASSEMBLY
DRUM BASE
LOADING MOTOR ASSEMBLY
DRUM ASSEMBLY
FULL ERASE HEAD ASSEMBLY
PINCH LEVER ASSEMBLY
P2, P3 SLANT ASSEMBLY
TENSION ARM ASSEMBLY
TAKE-UP REEL ASSEMBLY
SUPPLY REEL ASSEMBLY
BRACKET F.R ASSEMBLY
IDLER GEAR A.B

Bottom Side


CAPSTAN MOTOR ASSEMBLY
LOADING GEAR ASSEMBLY
BOTTOM BRACKET ASSEMBLY
MODE SWITCH
JUNCTION P.C.B ASSEMBLY
PULLEY GEAR ASSEMBLY
CLUTCH GEAR ASSEMBLY
FUNCTION PLATE

1. Auto Head Cleaner Assembly (Fig. B-1) (Optional Item)

1) Remove the Cleaner Arm Assembly (Auto Head Cleaner Assembly) by pushing the Locking Tab.(B) outward.
2) Remove the Cleaner Upper Spring and then remove the Cleaner Upper Arm Sub Assembly.
3) Remove the Cleaner Spring.

*** NOTE**

1) When reassembling, do not touch the Video Head Tip with fingers or tools.

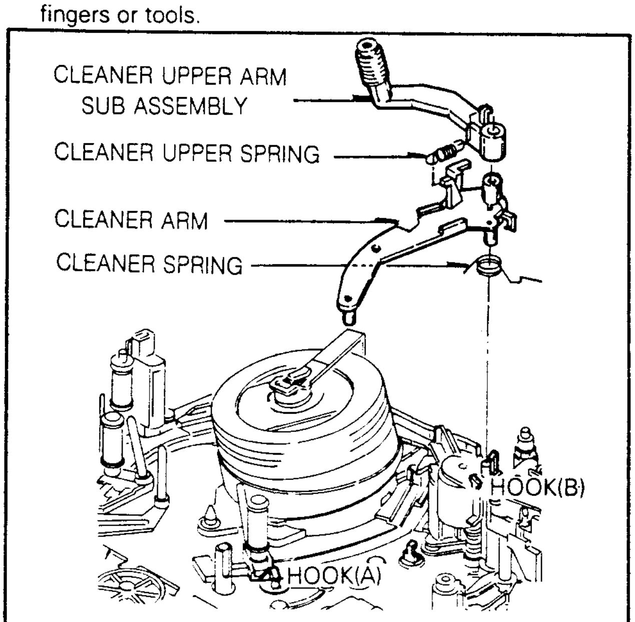


Fig. B-1 Auto Head Cleaner Assembly

2. Drum Assembly and Drum Base(Fig. B-2)

1) Remove the Auto Head Cleaner Assembly.
2) Unplug the connector with the Deck Mechanism Assembly turned over.
3) Loosen the screw(A) and then lift up the Drum Brush.
4) Remove two screws(B) and then lift up the Drum Assembly and Drum Base from the Deck Mechanism Assembly.
5) Separate the Drum Assembly from the Drum Base by Loosening three screws(C) on the back of Drum Base.

*** NOTE**

1) When disassembling and reassembling
① Do not touch the Video Head tip with fingers or tools. (Give special attention to disassembling and reassembling of Auto Head Cleaner Assembly)
② After reinstalling the Drum Brush, the Drum Brush should be aligned with the center of vertical axis of Drum Assembly.
③ After completing the reassembly, adjust the transportation system and the Servo P.G.

3. Upper and Lower Drum Assembly (Fig. B-3)

1) Remove the Drum Assembly and Drum Base from the Deck Mechanism Assembly.
2) Separate the Drum Assembly from the Drum Base.
3) Remove two screws(A).
4) Remove the P.C.B.
5) Separate the upper Drum Assembly from the Lower Drum Assembly.

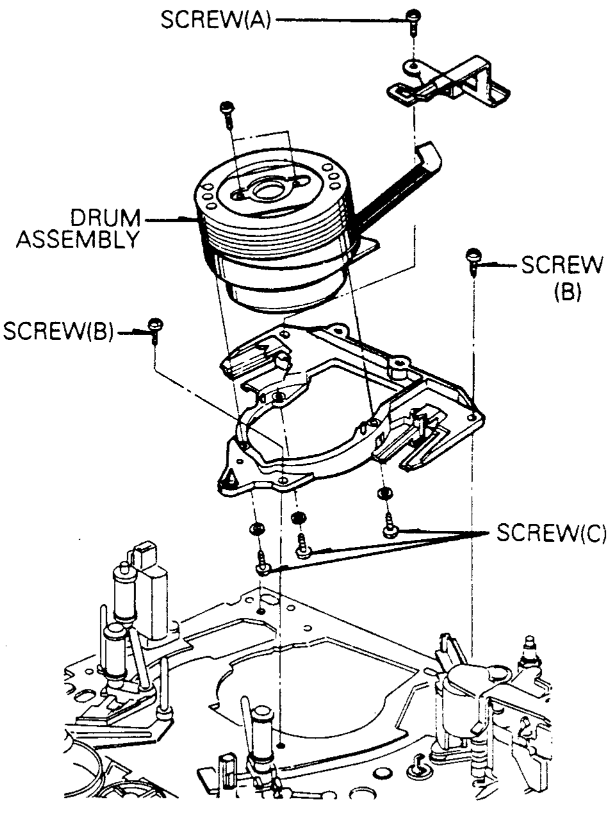


Fig. B-2 Drum Assembly/Drum Base

*** NOTE**

1) When disassembling and reassembling
① Do not touch the Video Head Tip with fingers or tools.
② Make sure that the color(white) marked on the P.C.B of the upper Drum should coincide with the color(Green) marked on the Flange Assembly.

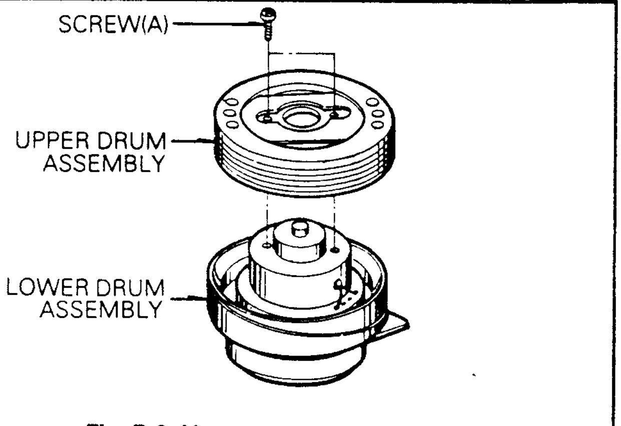


Fig. B-3 Upper/Lower Drum Assembly

4. A/C(Audio/Control) Head Assembly (Fig.B-4)

1) Unplug the connector
2) Remove the Nut(A), and then lift up the A/C Head Assembly.
3) Remove the Azimuth Adjusting Screw.
4) Remove two screws(B),(D) and then separate the A/C Head Assembly from the Base A/C Head Assembly.

*** NOTE**

1) When disassembling

① First of all, release the spring A/C.

② Do not touch the A/C Head Tip with fingers or tools.

③ After reinstalling the Audio Control Head Assembly, adjust the Tilt, Azimuth and Height of A/C Head.

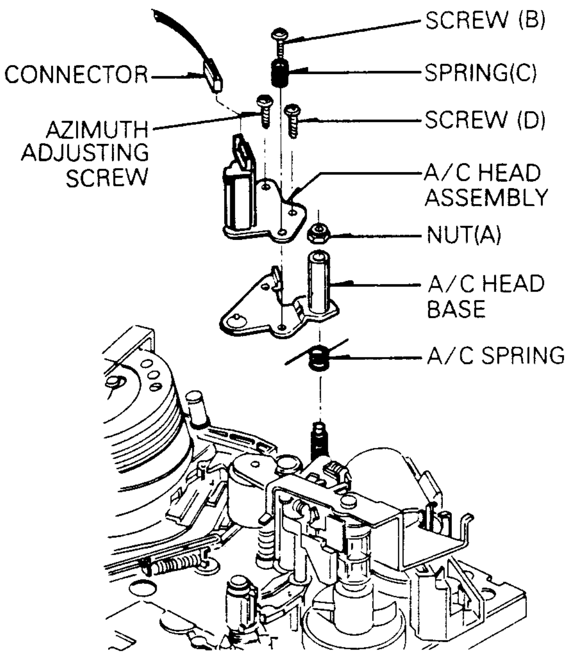

SCREW (B)
CONNECTOR
SPRING(C)
AZIMUTH ADJUSTING SCREW
SCREW (D)
A/C HEAD ASSEMBLY
NUT(A)
A/C HEAD BASE
A/C SPRING

Fig. B-4 A/C Head Assembly

5. Pinch Lever Assembly(Fig. B-5)

1) Remove one Nut, and then remove the Dew Bracket.
2) Lift up Pinch Lever Assembly.
3) Remove the Pinch Spring, and remove the Pinch Lever.
4) Remove the Stopper Spring and remove the Pinch Stopper by lifting it up when the Hook of Pinch Stopper is aligned with the hole of Pinch Arm while rotating the Pinch Stopper in the counterclockwise direction.
5) Remove the Pinch Cap, and then remove the Pinch Roller Assembly.

*** NOTE**

1) When disassembling and reassembling

① Be careful not to get any foreign substance on the Roller.

② When disassembling the Pinch Cap, be careful not to damage the Pinch Arm.

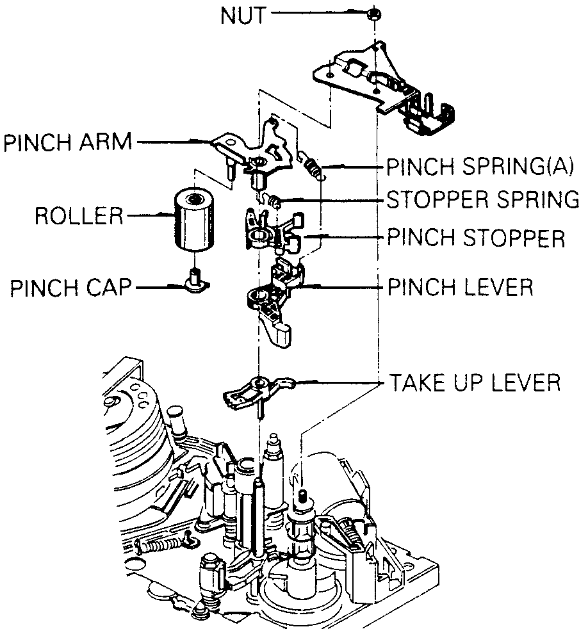

NUT
PINCH ARM
PINCH SPRING(A)
STOPPER SPRING
ROLLER
PINCH STOPPER
PINCH CAP
PINCH LEVER
TAKE UP LEVER

Fig. B-5 Lever Assembly Pinch

6. Loading Motor Assembly(Fig. B-6-1, B-6-2)

1) Remove the Dew Bracket.
2) Unplug the connector from the Junction P.C.B Assembly
3) Remove two screws(A).
4) Remove the worm wheel by pushing it down.
5) Remove the Loading Motor Assembly by pushing(C) and (D) outward.
6) Remove the worm Gear Assembly from the Loading Motor Assembly by pushing it.

*** NOTE**

1) When reassembling

① Make sure that the worm assembly is seated in the axis of Loading Motor.

② Two grooves(G) of Loading Motor should be turned up and two projections(F) of Bracket Assembly should be seated in each at the two holes(E)(Fig. B-6-1).

③ Take notice of the polarity of the Loading Motor.

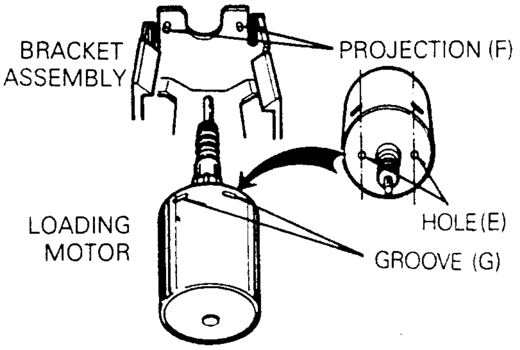

BRACKET ASSEMBLY
PROJECTION (F)
LOADING MOTOR
HOLE(E)
GROOVE (G)

Fig. B-6-1

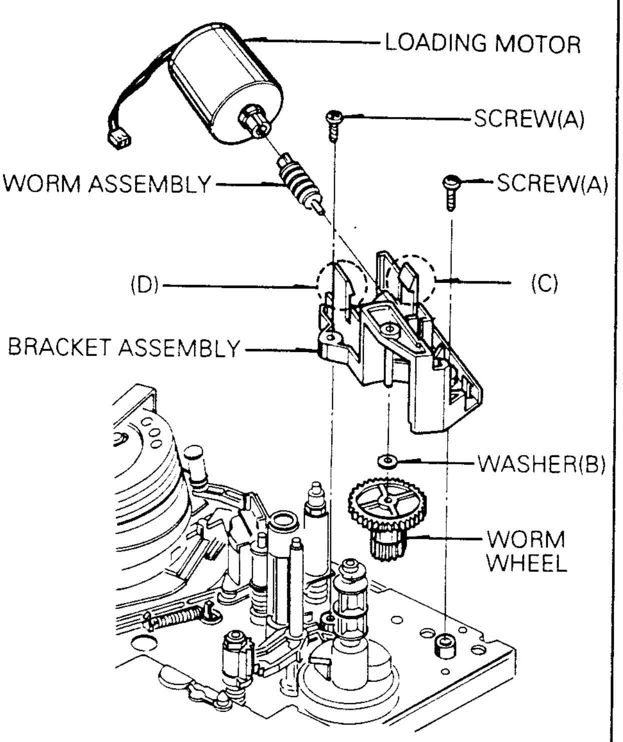

LOADING MOTOR
SCREW(A)
WORM ASSEMBLY
SCREW(A)
(D)
(C)
BRACKET ASSEMBLY
WASHER(B)
WORM WHEEL

Fig. B-6-2 Loading Motor Assembly

7. Take Up Lever(Fig. B-7)

1) Remove the Dew Bracket.
2) Remove the Pinch Lever Assembly.
3) Remove the Take-Up Lever by pushing the hook(A) outward.

*** NOTE**

1) When disassembling and reassembling

① When disassembling the Take-Up Lever, be careful not to break the Hook(A).

② When reassemble the Take-Up Lever,align the appendant Gear of Lever Take-Up with the appendant Gear of Take-up Arm

③ Reassemble the Take-Up Lever completely by hooking (A).

8. Take Up Arm Assembly(Fig. B-8)

1) Remove the Dew Bracket, Pinch Gear, and the Take-Up Lever
2) Remove one Nut(A).
3) Remove the Take-Up Arm Assembly by lifting it up.
4) Remove the spring(B).

*** NOTE**

1) When reassembling

① Align the Gear of Take-Up Arm with the Gear of Take-Up Lever.

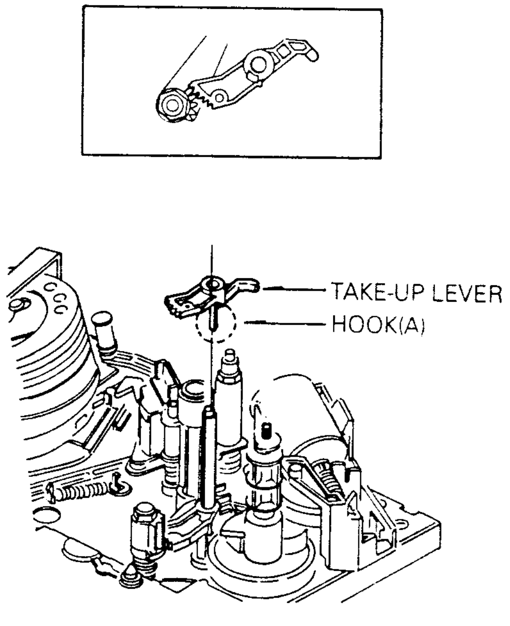

TAKE-UP LEVER
HOOK(A)

Fig. B-7. Take-Up Lever

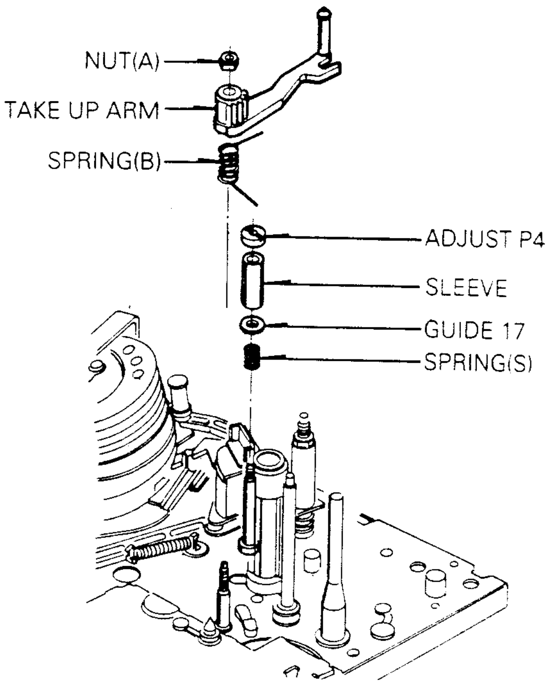

NUT(A)
TAKE UP ARM
SPRING(B)
ADJUST P4
SLEEVE
GUIDE 17
SPRING(S)

Fig. B-8 Take-Up Arm Assembly/P4

9. P4 Assembly(Fig. B-8)

1) Remove the Adjust P4.
2) Remove the Sleeve.
3) Remove the Guide 17.
4) Remove the Spring

10. Pinch Gear

1) Remove one Nut(A) and then remove the Dew Bracket.
2) Remove the Pinch Lever Assembly by lifting it up.
3) Remove the Loading Motor Assembly.
4) Remove the Take Up Lever.
5) Remove the Pinch Gear Assembly.

• NOTE

1) When reassembling, align the hole(A) of Pinch Gear with the hole of chassis, and the hole(C) of Pinch Gear with the groove(D) of the P.C.Gear. Hole(E) of chassis should be aligned with the hole of P.C.Gear.

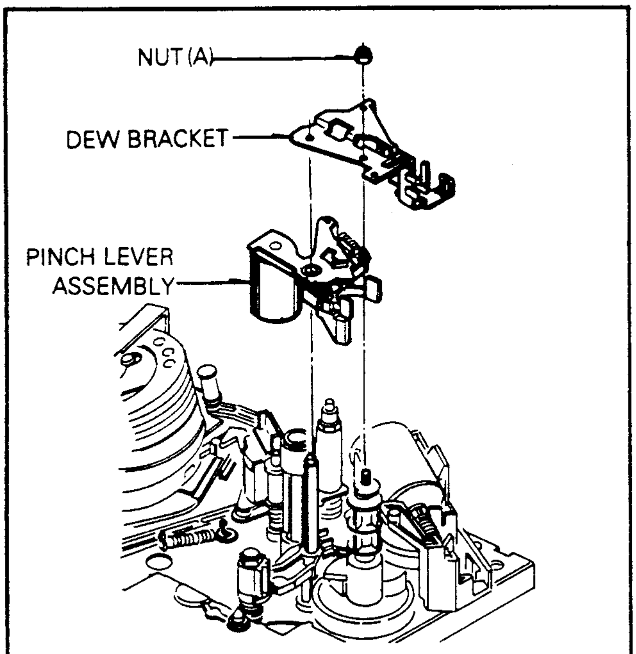


Fig. B-10-1 Pinch Gear Assembly

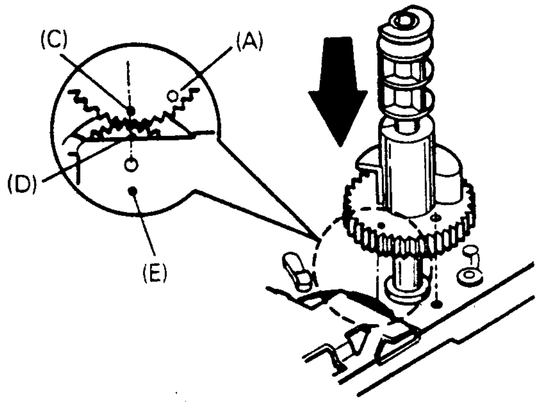


Fig. B-10-2 Pinch Gear

11. FE(Full Erase) Head Assembly(Fig. B-11) (Optional Item)

1) Unplug the connector.
2) Remove one screw(A), and then remove the FE Head.

• NOTE

1) When disassembling and reassembling
① Do not touch the Video Head Tip with fingers or tools.

12. P1 Assembly(Fig. B-11)

1) Remove the Stopper P1.
2) Remove the Roller P1 .
3) Remove the Sleeve P1.
4) Remove the Guide 17.

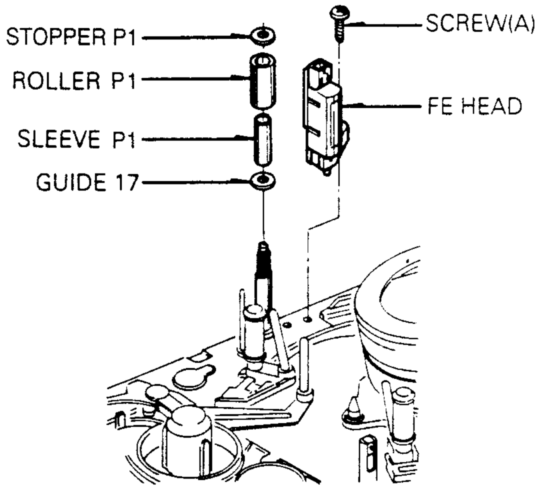


Fig. B-11 FE Head/P1

13. Tension Arm Assembly(Fig. B-13)

1) Remove one screw(C).
2) Remove the Tension Spring.
3) Remove the Tension Arm Assembly by pushing hooks outward with the Deck Mechanism Assembly turned over.
4) Remove the Tension Band Assembly from the Tension Arm by pushing Hooks of Holder(A).

• NOTE

1) When disasembling and reassembling, give special attention to the disassembling and reassembling of Tension Arm Assembly, because the Tension Band is interposed between the Supply Reel and the Soft Brake.

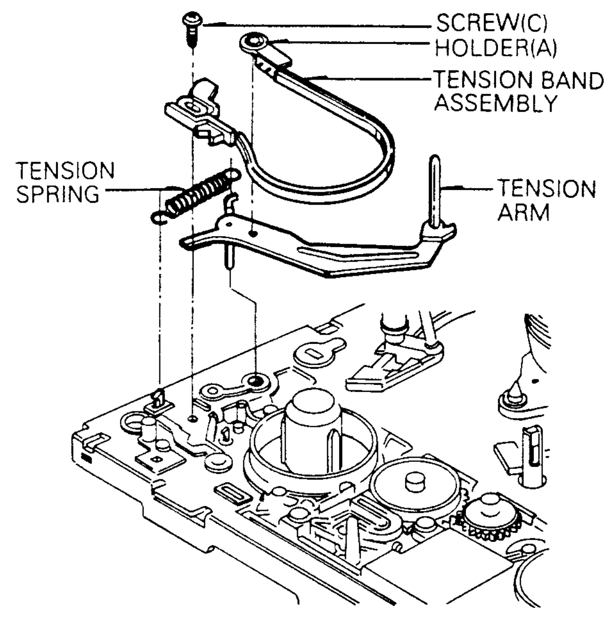

SCREW(C)
HOLDER(A)
TENSION BAND ASSEMBLY
TENSION SPRING
TENSION ARM

Fig. B-13 Tension Arm Assembly

14. Supply Soft/Supply Main/Take-Up Soft/Take-Up Main Brake Assembly

1) Supply Soft Brake(SSB)
   ① Remove the SSB Spring.
   ② Remove the SSB.
2) Supply Main Brake(SMB)
   ① Remove the SMB Spring.
   ② Remove the SMB.
3) Take Up Soft Brake(TSB)
   ① Remove the TSB Spring.
   ② Remove the TSB.
4) Take-Up Main Brake(TMB)
   ① Remove the TMB Spring.
   ② Remove the TMB.

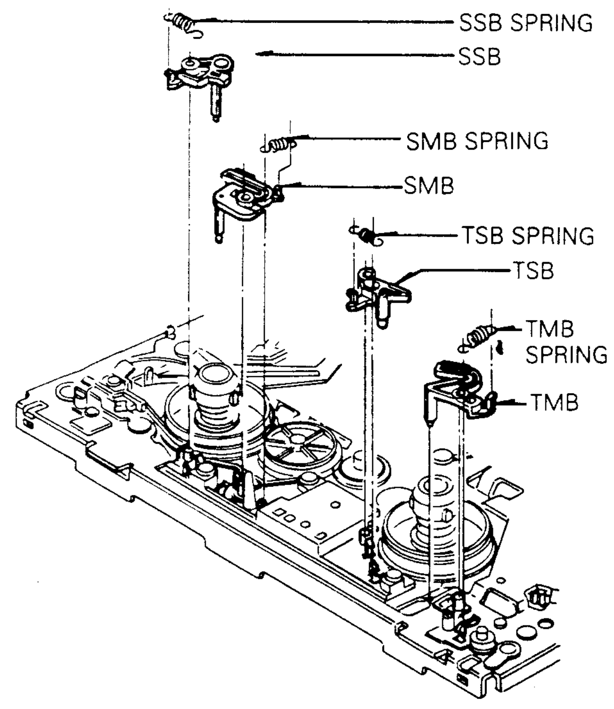

SSB SPRING
SSB
SMB SPRING
SMB
TSB SPRING
TSB
TMB SPRING
TMB

Fig. B-14 SMB/SSB/TMB/TSB

15. Bracket F/R(FF/Rewind) Assembly (Fig. B-15)

1) Remove the TMB.
2) Remove the Washer(A), and then remove the Gear F.R.
3) Remove three screws, and then remove Bracket F/R Assembly from the Deck Mechanism Assembly.
4) Remove the Washer(B), and spring Up/D, and then remove the Gear Up/D.
5) Remove the shaft(C), and then remove the Arm F.R, Lever F.R and Spring F.R.

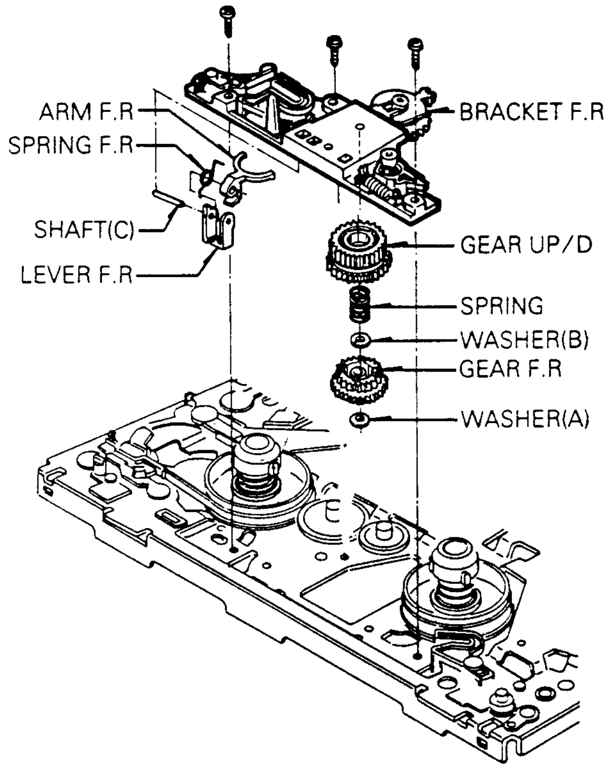

ARM F.R
SPRING F.R
SHAFT(C)
LEVER F.R
BRACKET F.R
GEAR UP/D
SPRING
WASHER(B)
GEAR F.R
WASHER(A)

Fig. B-15 Bracket F.R Assembly

16. Supply Reel Assembly(Fig. B-16)

1) Remove the Tension Band Assembly.
2) Remove the Bracket F/R.
3) Lift up the Supply Reel Assembly from the Deck Mechanism Assembly.
4) Separate the Reel Cap from the Supply Reel by taking it out of Hooks(A).

17. Take Up Reel Assembly(Fig. B-16)

1) Remove the TMB(Fig. B-14)
2) Lift up the Take-up Reel Assembly from the Deck Mechanism Assembly.
3) Separate the Reel Cap and Spring from the Take-Up Reel by releasing Hooks(S).

*** NOTE**

1) When reassembling

① Make sure that the Supply and Take Up Reel are not exchanged.

② After reinstalling the Supply Reel Assembly, Adjust the Tension.

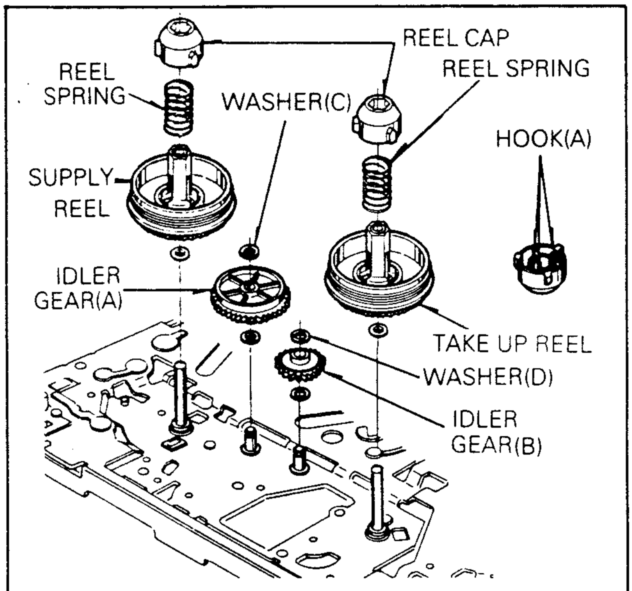

REEL CAP
REEL SPRING
REEL SPRING
WASHER(C)
HOOK(A)
SUPPLY REEL
IDLER GEAR(A)
TAKE UP REEL
WASHER(D)
IDLER GEAR(B)

Fig. B-16 Supply Reel Assembly

18. Idler Gear(A), (B)(Fig. B-16)

1) After removing the Supply Reel, and supply Main Brake Assembly,remove the washer(C) and remove the Idler Gear(A).
2) Remove the Washer(D) and remove the Idler Gear(B).

19. Pulley Gear Assembly(Fig. B-19)

1) Turn over the Deck Mechanism Assembly.
2) Remove the Capstan Belt.
3) Remove the Washer(A) and lift up the Pulley Gear.

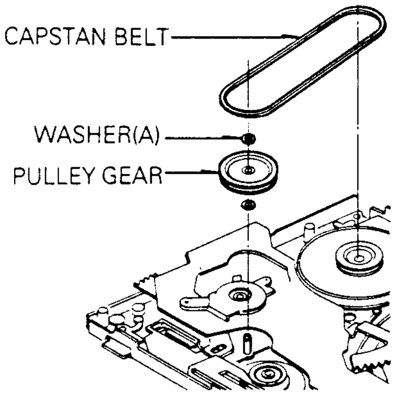

CAPSTAN BELT
WASHER(A)
PULLEY GEAR

Fig. B-19 Pulley Gear

20. Bracket Bottom Assembly(Fig. B-20)

1) Remove one screw(A).
2) Remove one Hexagonal Nut, and then lift up the Bracket Bottom Assembly.
3) Remove one Washer, and lift up the Ratchet Gear 1.

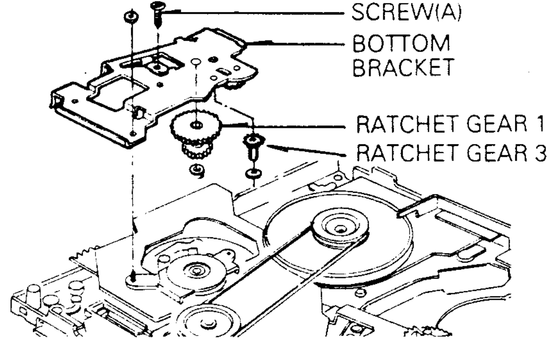

SCREW(A)
BOTTOM BRACKET
RATCHET GEAR 1
RATCHET GEAR 3

Fig. B-20 Bracket Bottom

4) Remove the washer, and then remove Ratchet Gear 3 from the Bottom Bracket.

21. Junction PCB(Printed Circuit Board) Assembly (Fig. B-21-1)

1) Remove the Bottom Bracket Assembly.
2) Remove two screws(A),(B) and then remove the Junction P.C.B Assembly.
3) Remove the Mode Switch from the Junction P.C.B Assembly.
4) Remove the Reel Sensors, Sensor LEDS and each holder from the Junction P.C.B(Fig. B-21-2).

*** NOTE**

1) When reassembling the Mode Switch, the groove(V) and (U) of Mode Switch should be at their original place in the Eject Mode.

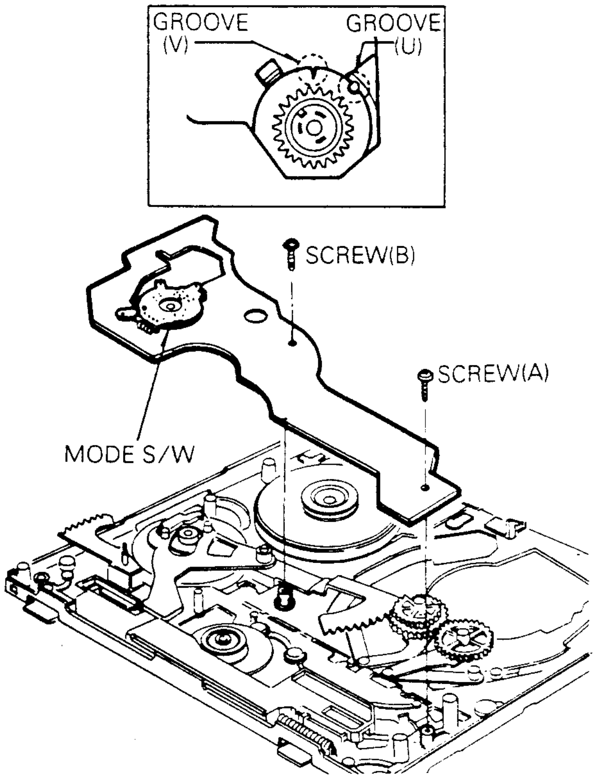

GROOVE (V)
GROOVE (U)
SCREW(B)
SCREW(A)
MODE S/W

Fig. B-21-1 Junction PCB Assembly

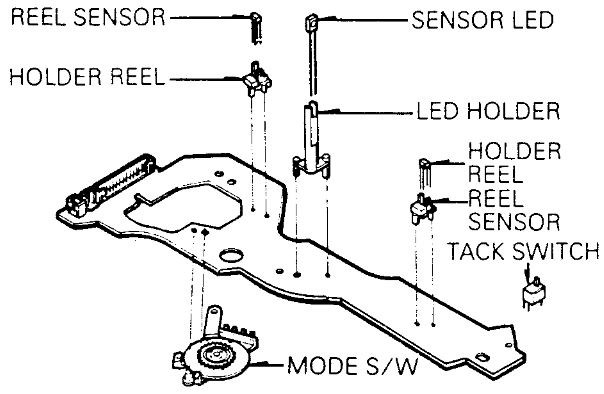

REEL SENSOR
SENSOR LED
HOLDER REEL
LED HOLDER
HOLDER REEL
REEL SENSOR
TACK SWITCH
MODE S/W

Fig. B-21-2 Mode S/W/Reel Sensor/Sensor Led

22. Capstan Motor and Brake Assembly (Fig. B-22-1)

1) Remove the Junction P.C.B Assembly
2) Hook the end of Capstan Brake Spring to the projection of Capstan Brake and then remove the Capstan Brake Assembly by lifting it up(Fig. B-22-2).
3) Remove two Screws(A), and then remove the Bracket C-Guide.
4) Remove the Connector.
5) Remove three screws(B), and then remove the Capstan Motor Assembly from the Deck Mechanism Assembly.

*** NOTE**

1) When disassembling and reassembling, hook end of the spring on the projection of Cap-Brake and remove it by lifting it up. Reassemble it in the opposite manner.

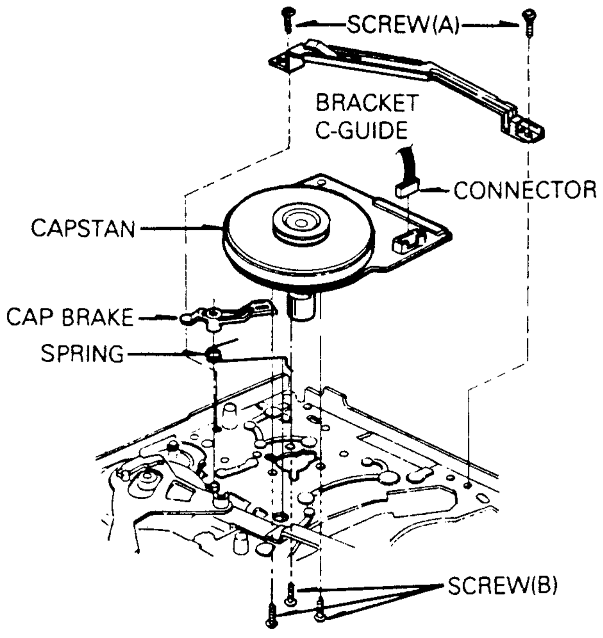

SCREW(A)
BRACKET
C-GUIDE
CONNECTOR
CAPSTAN
CAP BRAKE
SPRING
SCREW(B)

Fig. B-22-1 Capstan Motor Assembly

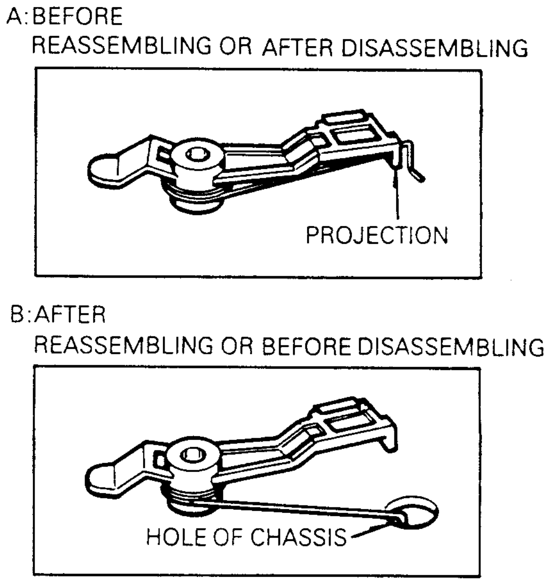

A:BEFORE
REASSEMBLING OR AFTER DISASSEMBLING
PROJECTION
B:AFTER
REASSEMBLING OR BEFORE DISASSEMBLING
HOLE OF CHASSIS

Fig. B-22-2 CAP Brake Assembly

23. Function Plate(Fig. B-23)

1) Remove two screws(B) in Eject Mode.
2) Remove the Function Plate Spring.
3) Remove the Function Plate.

*** NOTE**

1) When reassembling,the groove of Lower part of Function Plate should be aligned with the shaft of Tension Lever Assembly(Fig. B-29).

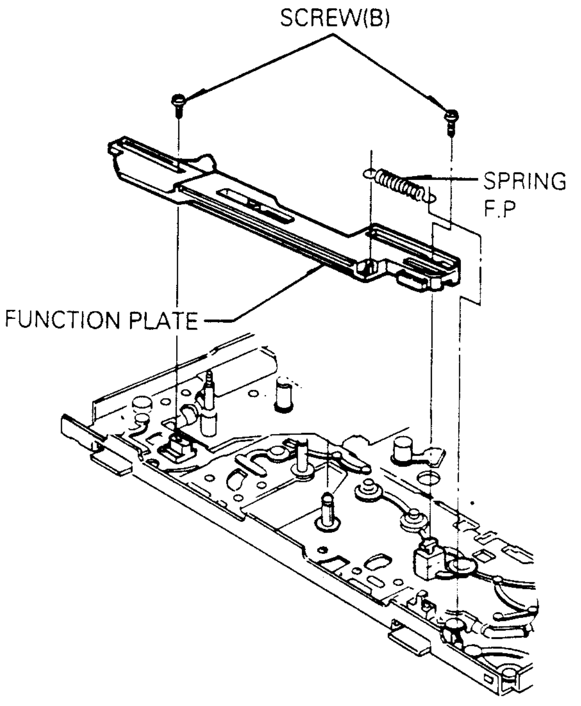

SCREW(B)
SPRING
F.P
FUNCTION PLATE

Fig. B-23 Function Plate

24. Ratchet Lever Assembly(Fig. B-24)

1) Remove the Function Plate.
2) Remove the Junction P.C.B Assembly.
3) Remove the Washer(A) and then remove the Ratchet Lever Assembly.
4) Remove the Ratchet Spring.
5) Remove the Ratchet Lever from the Ratchet 17 by lifting it up when the hook of it is aligned with the hole of Ratchet 17 while rotating it counterclockwise direction.
6) Remove the Washer(B), and turn over the Ratchet 17 and then remove the Slant Pin, Spring F, Lever.

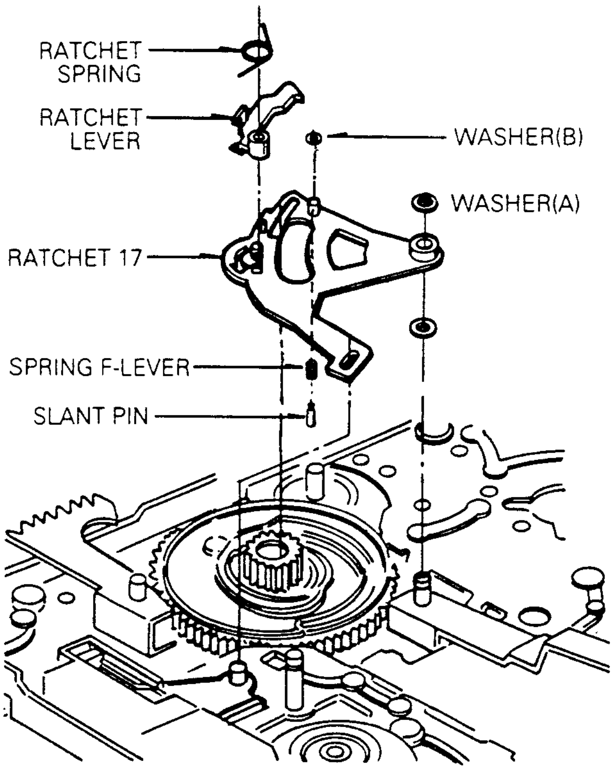

RATCHET SPRING
RATCHET LEVER
WASHER(B)
WASHER(A)
RATCHET 17
SPRING F-LEVER
SLANT PIN

Fig. B-24 Ratchet Lever Assembly

25. Cam Gear/Rack Gear T/Rack Gear FL(Fig. B-25-2)

1) Remove the washer(A) and remove the Ratchet Lever Assembly.(Fig. B-25-1).
2) Remove the washer(B), and then remove the Cam Gear (Fig. B-25-2).
3) Remove the Rack Gear F.L.(Fig. B-25-3).
4) Remove the Rack Gear T.(Fig. B-25-3).

*** NOTE**

1) When reassembling

① Align the Projection of Rack Gear T with the hole of Loading Gear.

② Drive the Rack Gear F.L in the direction of arrow(D).

③ Hole of Cam should be aligned with the hole of chassis, and the groove(⋈) of Cam Gear should be aligned with the hole of PC Gear (Fig. B-26).

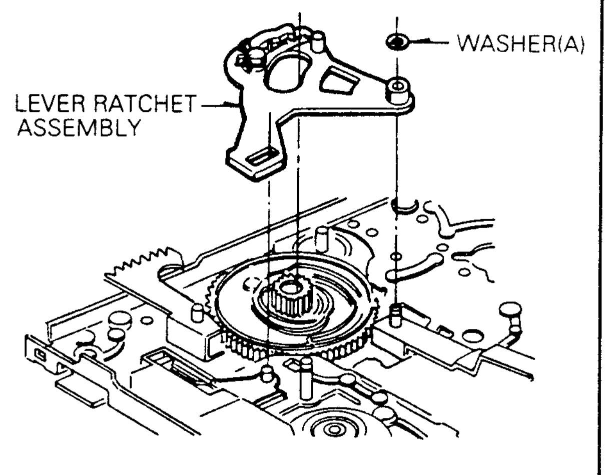

WASHER(A)
LEVER RATCHET ASSEMBLY

Fig. B-25-1 Lever Ratchet Assembly

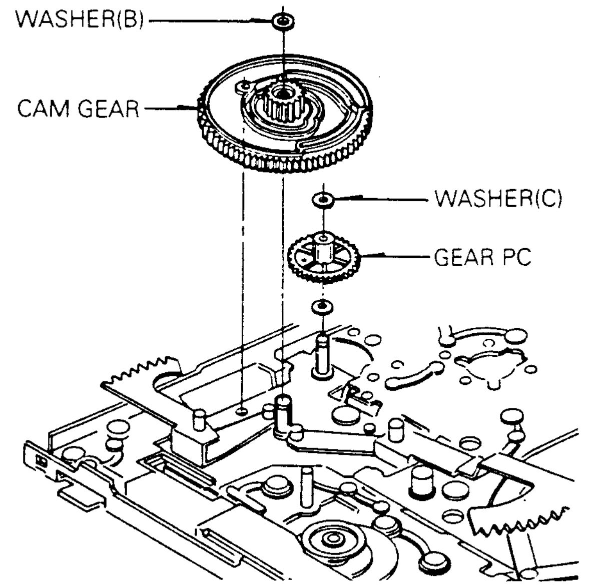

WASHER(B)
CAM GEAR
WASHER(C)
GEAR PC

Fig. B-25-2 CAM/PC Gear

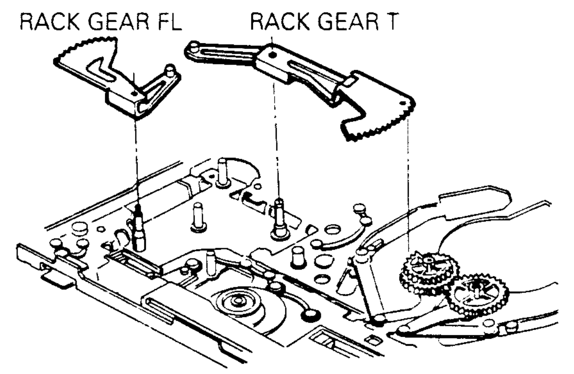

RACK GEAR FL
RACK GEAR T

Fig. B-25-3 Rack Gear F.L/Rack Gear T

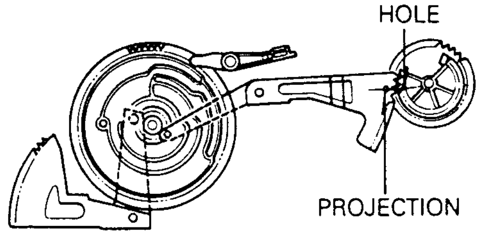


Fig. B-25-4 Rack Gear F.L/Rack Gear T/CAM Gear

26. PC Gear(Fig. B-26)

1) Remove the washer(C).
2) Remove the P.C Gear by lifting it up.

*** NOTE**

1) When reassembling

① The Groove of PC Gear should be aligned with the groove(V) of Cam Gear, and another hole of it should be aligned with the hole of chassis (Fig. B-26).

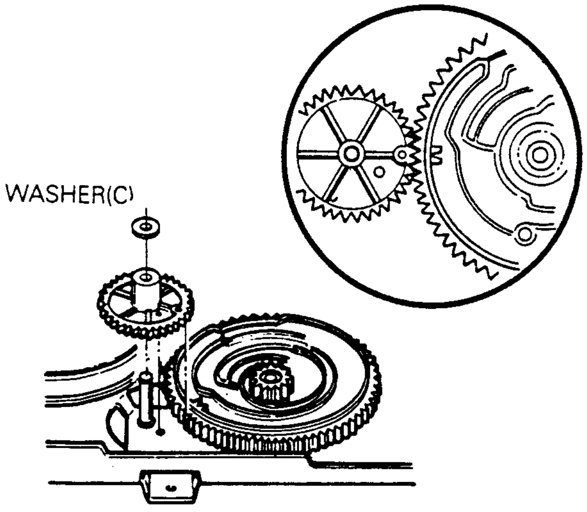


Fig. B-26 PC Gear

27. P2 and P3 Slant Assembly (Fig. B-27)

1) After finishing the disassembly of Drum Assembly, remove the P2 and P3 Slant Assembly by turning the Loading Gear(R) in the clockwise direction.(Loading direction)
2) Loosen the set screws.
3) Remove the Roller Guide from the Slant Base.

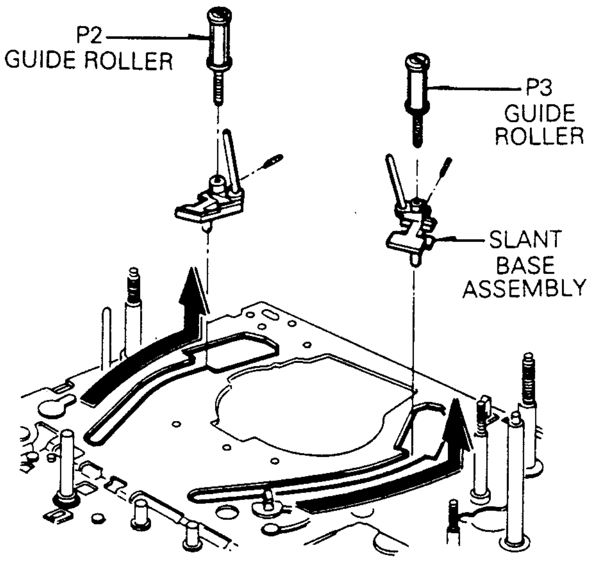


Fig. B-27 Slant Assembly

*** NOTE**

1) When disassembling and reassembling

① Use a Hexagonal wrehch to remove set screw.

② Take notice that the P2 and P3 Slant Assembly should not be changed from their original place.

28. Loading Gear Assembly(L),(R) (Fig. B-28)

1) Remove the Cam Gear, Rack-T.
2) Remove the P2 and P3 Slant Assembly by turning the Loading Gear(L),(R) in the Loading direction
3) Lift up the Loading Gear Assembly(L),(R) from the Deck Mechanism Assembly.
4) Remove the Spring Load(L),(R).
5) Separate the Loading Gear(L), (R) from Lever Load(L),(R).

*** NOTE**

1) When reassembling

① Make sure that the Loading Gear(L) and (R) should not be changed from their original place.

② Align the groove of Loading Gear(L),(O) with the groove of Gear(R),(O).

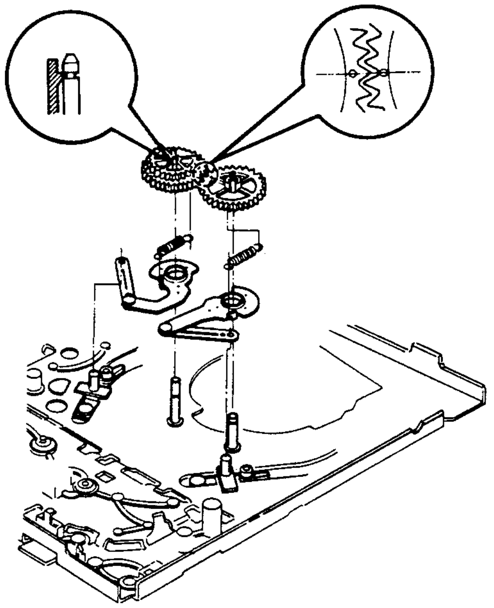


Fig. B-28 **Loading Gear Assembly**

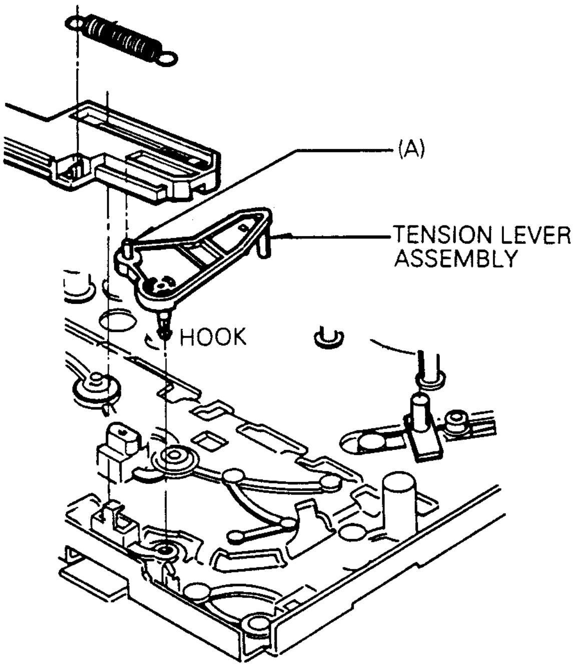


Fig. B-29 **Tension Lever Assembly**

29. Tension Lever Assembly(Fig. B-29)

1) Remove the Function Plate.
2) Remove the Tension Lever Assembly by pushing hooks inward.

*** NOTE**

1) When reassembling

① Set the part(A) of Tension Lever Assembly in the groove of Lower part of Function Plate.

② After reinstalling the Tension Lever Assembly, adjust the Tension Post and the Tension with a Tension Cassette.

30. Clutch Gear Assembly(Fig. B-30)

1) Remove the Pulley Gear.
2) Remove the Plate Function.
3) Remove the washer(A), and then remove the Clutch Gear Assembly.

*** NOTE**

1) When reassembling

① Do not disassemble the Clutch Gear Assembly any futher, because Torque adjustment is not adjustible.

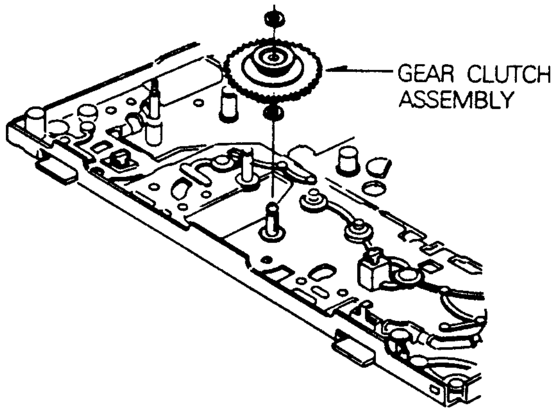
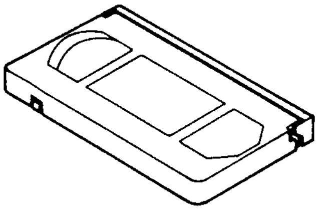
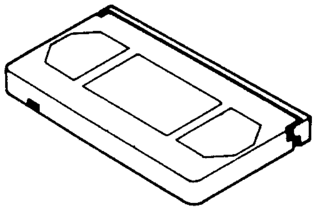
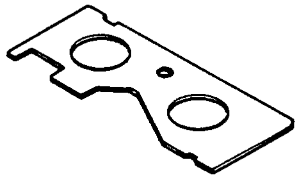
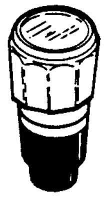
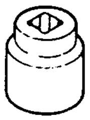
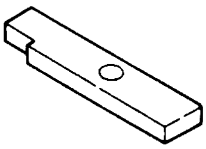
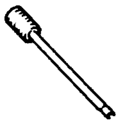
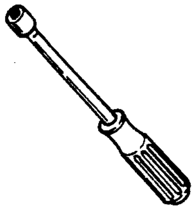


Fig. B-30 **Gear Clutch Assembly**

MECHANISM ADJUSTMENTS

- **Tools and Fixtures for Deck**

1. Back tension meter Parts No ; D00-D006 	2. NTSC alignment tape Parts No NTSC ; DTN-0001 PAL ; DTN-0002 	3. Master plane Parts No ; RJ10028 
4. Torque gauge Parts No ; D00-D002 	5. Torque gauge adaptor Parts No ; D09-R001 	6. Reel table height fixture Parts No ; RJ10027 
7. Post height adjusting driver Parts No ; DTL-0005 	8. M3 Nut driver Parts No ; DTL-0006 	

1. Mechanism State Switch (Mode Switch) Check

Purpose: To detect accurately the mechanism state and prevent the mechanism from malfunction.

Test Equipment/Fixture	VCR State	Check Point
● Blank tape	● Eject Mode (with cassette ejected)	● Mechanism state switch (Mode Switch and Cam)

Check Procedure

1) Turn the VCR on and eject the tape by pressing eject button.
2) Remove the Cabinet Top, the Main P.C.Board and the CST Housing. Then push the CST IN/OUT switch (Loca. #137) and eject button at the same time.
3) Turn the worm (Loca. #082) of Loading Motor Assembly (Loca. #A10) to the left side (counter-clockwise) to align the three holes (A) of the Pinct Gear, the P.C.Gear and the Chassis.
4) Remove the Bottom Cover and then check that the groove (V) and the hole (O) of Mode S/W are aligned each other. If the above alignment is not obtained, adjust as follows.
   (1) Remove the Bracket Assembly Bottom and the Capstan Belt in the state of power off.
   (2) Remove the P.C.B Assembly, align the groove (V) and the hole (O) of Mode S/W each other and then reassemble the P.C.B Assembly.
   (3) Turn the power on and perform the various operations to check that the loading and the unloading are correct.

Check Diagram

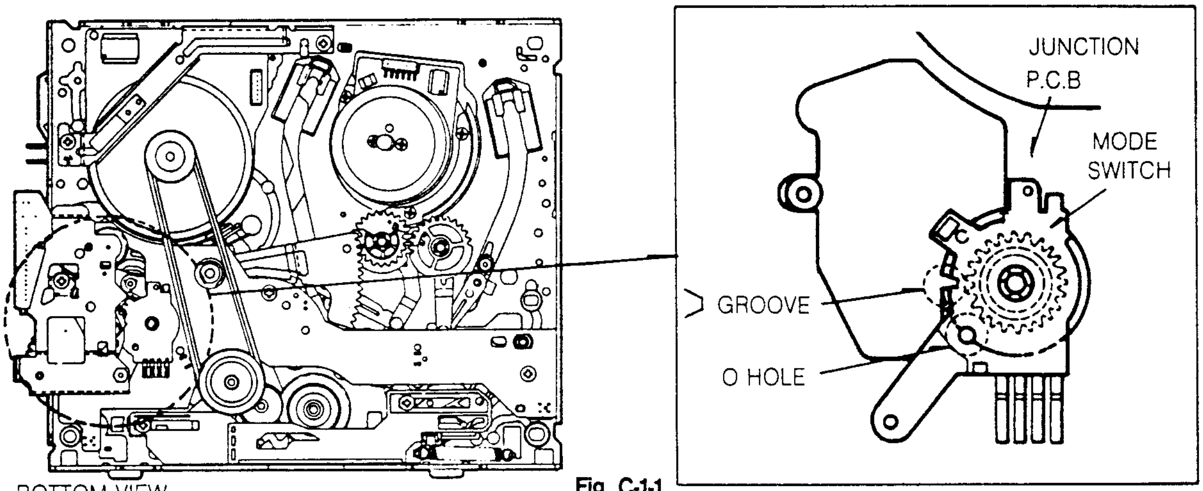


Fig. C-1-1

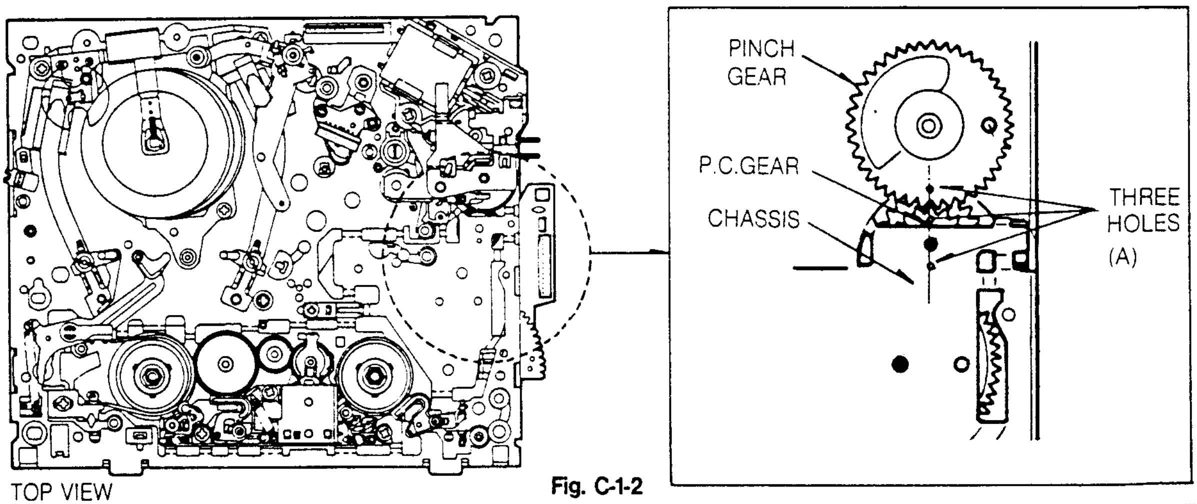


Fig. C-1-2

2. Preparation for Adjustment(To set VCR to the loading state without inserting a cassette)

1) Unplug the power cord from the AC outlet.
2) Remove the Cabinet Top and Front Loading mechanism.
3) Plug the power cord into the AC outlet.
4) Turn the VCR on and push the tact switch in the PCB Assembly.
   The VCR can accept input of each mode in this case. However the rewind and review operation cannot be performed for more than a few seconds because the take-up reel table is in the stop state and reel pulses cannot be detected.

(NOTE)

Always return the VCR to the Front Loading Mechanism Assembling State in the following order after the above operations have been performed.

1) Press the Eject button after turning the power on.
2) Wait for about 10 seconds until searching out the assembly position.
3) Assemble the Front Loading Mechanism and connect the Front Loading Mechanism Connector.
4) Refer to the "Front Loading Mechanism Disassembly" which is described previously.

3. Reel Table Height Adjustment

Purpose: To set the reels of the cassette to the specified height, thus determine the height of tape.

Test Equipment/Fixture	Preparation for adjustment	VCR State	Adjustment Points
● Master Plane ● Reel Table Height Fixture	1) Remove the Front Loading Mechanism 2) Mount the Master Plane and place the Reel Table Height Fixture on it.		● Washer under the Supply and Take-Up Reel Tables.

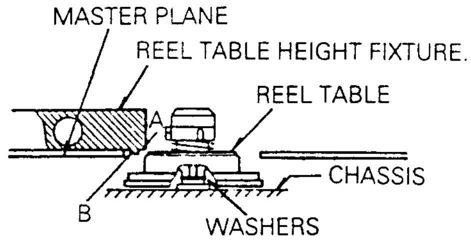
Adjustment procedure

1) Check that the Reel Table is between sections A and B of the Reel Table Height Fixture.
2) If the table is not between sections A and B of the Fixture, replace the washers(two types, 0.3mm and 0.5mm thick) in the Reel Table or adjust them.

****CAUTION****

When the Tension Arm and Tension Band are removed, adjust the tension post position and tension after reinstalling them.

Adjustment Diagram



SUPPLY AND TAKE-UP REEL TABLE

Fig. C-3

4. Tension Post Position and Tension Adjustment

Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized.

Test Equipment/Fixture	VCR State	Adjustment Point
● Tension Meter (Tension adjustment)	● Play without cassette and with a Tension Meter	● Holder Band(A)

Adjustment Procedures

〈Position Adjustment〉

1) Perform loading without inserting a tape and loosen the screw that attaches the Band Holder(B) to the D-Deck Mechanism Assembly.
2) Insert the (—)type driver between the Band Holder(B) and the "V" groove of the chassis.
3) Move the Band Holder(B) right and left and align the center of tension post with the center of P1.
4) Tighten the screw that attachs the Band Holder(B) to Deck Mechanism Assembly.

〈Tension Adjustment〉

1) Play the Tension Meter and read the Tension Meter:35g·cm±2.5g·cm(reference value).
2) If the result is abnormal.
   (1) over the standard:loosen the screw, move the Band Holder(B) right a little and then tighten the screw and make sure that this adjustment is correct.
   (2) below the standard:loosen the screw, move the Band Holder(B) left a little and then tighten the screw and make sure that this adjustment is correct.

****CAUTION****

The range of movement of Band Holder(B) should be within ±1.5mm while being adjusted.
If the range is over, you should recheck the Reel Brake, Tension Arm and Spring.

Adjustment Diagram

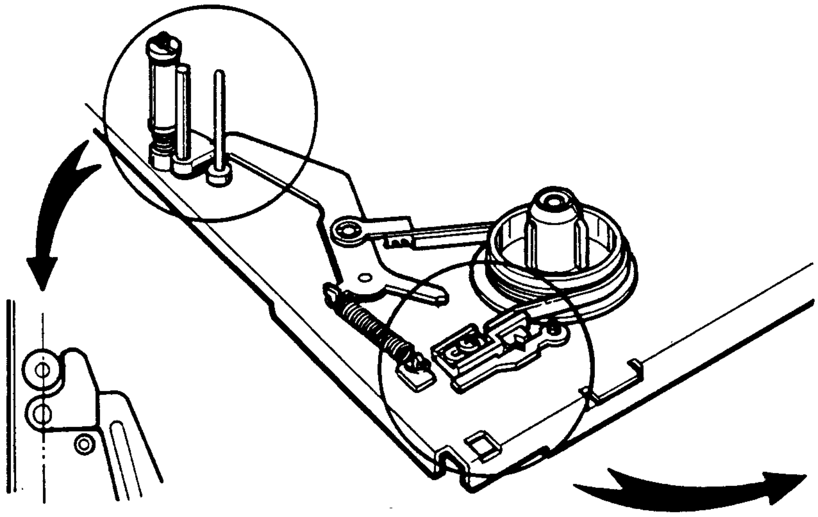


Fig. C-4-1

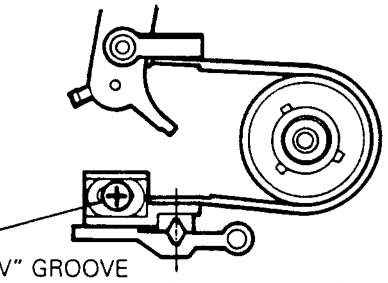


Fig. C-4-2

5. Checking Torque

Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape run smoothly and satisfy the basic performance of the VCR. Check these if the tape does not run smoothly or the tape speed is abnormal.

Test Equipment/Fixture	VCR state
● Torque Gauge ● Torque Gauge Adaptor	● Set the VCR to each operation mode without inserting a cassette. (See '2 Preparation for Adjustment')

Item	VCR Operation mode	Measurement Reel	Measurement Values
Main brake torque,	Eject	Supply and take-up reels	600g.cm or more
Slack removal torque	Unloading(power off)	Supply reel	110~200g·cm
Fast forward torque	Fast forward	Take-up reel	400g·cm or more
Rewind torque	Rewind	Supply reel	400g·cm or more
Play take-up torque	Play	Take-Up reel	90~130g·cm

Checking Method

The values are measured by using a torque gauge and torque gauge adaptor with the torque gauge fixed.

Note: This value is measured when the VCR is shifted in the unloading direction from the fast forward or rewind mode and quick braking is applied to both Reel Tables.

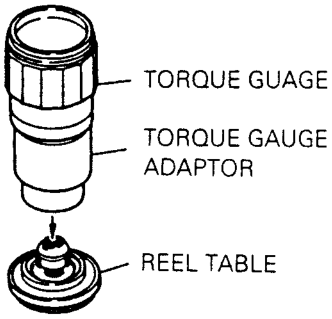


Fig. C-5

6. Guide Post Height Adjustment

Purpose: To control tape height

Test Equipment/Fixture	VCR State	Adjustment Point
● Master Plane ● Blank Tape ● Reel Table Height Jig ● Post Height Adjusting Driver ● M3 Nut Driver	● Mount the Master Plane and place the Reel Table Height Jig on it.	● Nuts on Impedance Roller ● Guide Post

1) Set the clearance between the bottom of the P1 Roller Flange and under cut of Reel Table Height Fixture to 0~0.1mm(Fig. C-6-1).
2) Set the clearance between the bottom of the Guide Post upper flange and top of the Reel Table Height Jig to 0~0.2mm(Fig. C-6-2).
3) Load and run the Tape and check that the tape does not ride over the upper and lower flanges of the guide post.
4) If the tape rides over either flange, adjust the height of P1 Roller and Guide Post as follows(Fig. C-6-3).
   - If the tape rides over the upper flange, turn the nut counterclockwise.
   - If the tape rides over the lower flange, turn the nut clockwise.

Adjustment Diagrams

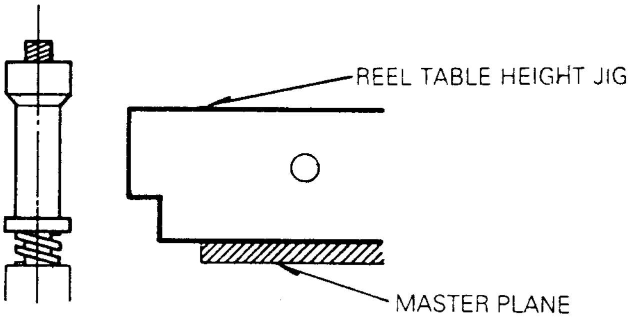

REEL TABLE HEIGHT JIG
MASTER PLANE

Fig. C-6-1

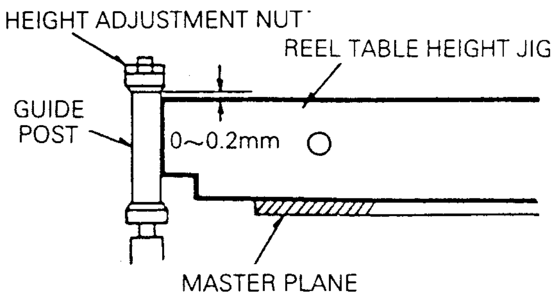

HEIGHT ADJUSTMENT NUT
REEL TABLE HEIGHT JIG
GUIDE POST
0~0.2mm
MASTER PLANE

Fig. C-6-2

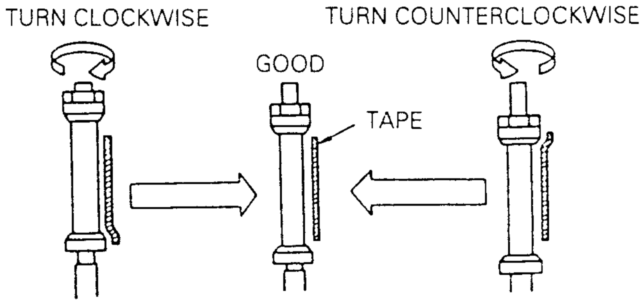

TURN CLOCKWISE
TURN COUNTERCLOCKWISE
GOOD
TAPE

Fig. C-6-3

7. Guide Roller Height Adjustment

Purpose: To regulate the height of tape so that the bottom of tape runs along the tape guide line on the lower drum.

A. Coarse Adjustment

Test Equipment/Fixture	VCR State	Adjustment Point
● Master Plane ● Reel Table Height Fixture ● Hexagonal Wrench ● Post Height Adjusting Driver	● Mount the Master Plane and place the Reel Table Height Fixture on it.	● Roller Guide Height Adjustment Screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure

1) Align the bottom of the Guide Roller's upper flange and the top of the Reel Table Height Fixture.
2) Perform the precise adjustment next.
3) When the Guide Roller is damaged, release the Guide Roller retaining screw and then replace the Guide Roller.

Adjustment Diagram

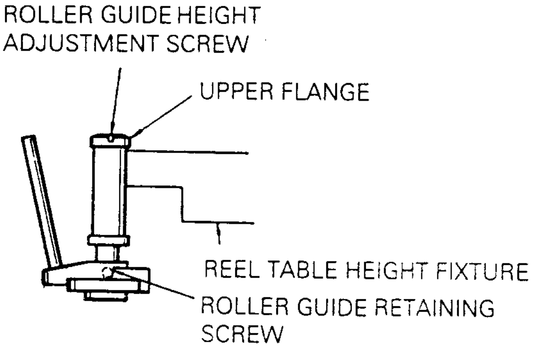

ROLLER GUIDE HEIGHT ADJUSTMENT SCREW
UPPER FLANGE
REEL TABLE HEIGHT FIXTURE
ROLLER GUIDE RETAINING SCREW

Fig. C-7-1

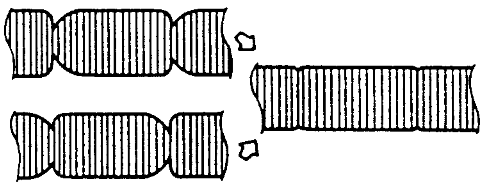
B. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	VCR State	Adjustment Point
● Oscilloscope ● Post Height Adjusting Driver ● Alignment Tape ● Hexagonal wrench	● CH-1:PB RF Envelope ● CH-2:SW 3–Hz ● Head Switching Output Point ● RF Envelope Output Point	● Play an alignment tape	● Guide Roller Height Adjustment Screws.

Adjustment Procedure

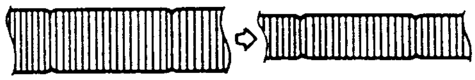
1) Play an alignment tape after connecting the probe of the oscilloscope to RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking control(in PB mode):Center position(When this adjustment is performed after the drum assembly has been replaced, set the tracking control so that the RF output is maximum.)
3) Height adjustment screw:Flatten the RF waveform.
4) Turn(Move) the tracking control(playback) clockwise and counterclockwise.(to the right and left)
5) Check that the drops of RF output are uniform at the start and end.

Waveform Diagrams



Trun the Roller Guide Height Adjustment Screw slightly to flatten the waveform.

Fig. C-7-2

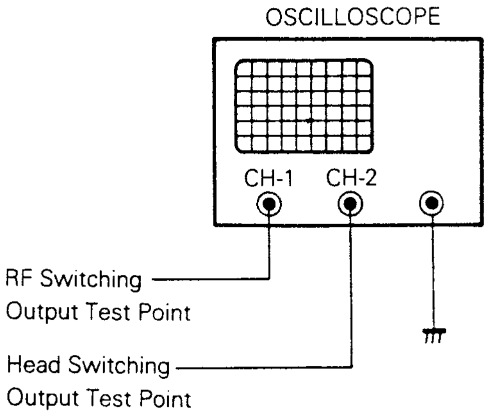


Tracking control at center

Turn(Move) the tracking control to both directions.

Fig. C-7-3

Connection Diagram


OSCILLOSCOPE
CH-1
CH-2
RF Switching Output Test Point
Head Switching Output Test Point

8. Audio/Control(A/C) Head Adjustment

Purpose: To keep the contact between the tape and head so that the specificed track is recorded and played back.

A. Coarse Adjustment

Test Equipment/Fixture	VCR State	Adjustment Points
● Master Plane ● Reel Table Height Fixture ● M3 Nut Driver	● Mount the Mater Plane and place the Reel Table Height Fixture on it.	● Special screw ● Cone Point Screw for tilt ● Azimuth Adjustment Screw ● A/C Head Adjuster
● Blank tape	● Run the blank tape	

Adjustment procedure/Adjustment Diagram

1) Tighten the spring section of the special screw so that it protrudes 6.4mm(approx.) over the top of Head Base(1).

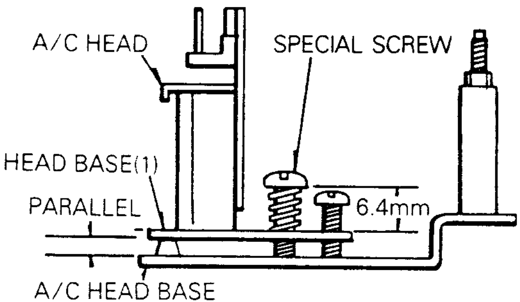

A/C HEAD
SPECIAL SCREW
HEAD BASE(1)
PARALLEL
6.4mm
A/C HEAD BASE

Fig. C-8-1

2) Turn the Azimuth Adjustment Screw and Cone Point Screw so that the Head Base(1) and A/C Head Base are parallel.

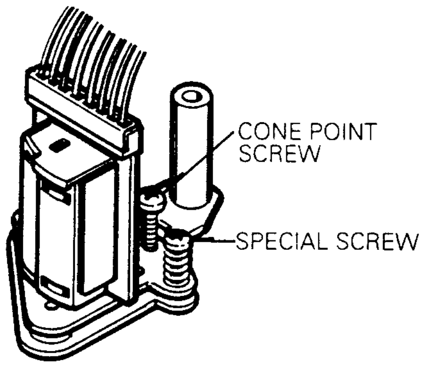

CONE POINT SCREW
SPECIAL SCREW

Fig. C-8-2

3) Turn the A/C Head Adjuster until the clearance between the Master Plane and Head Base(1) is approx 1.2mm.

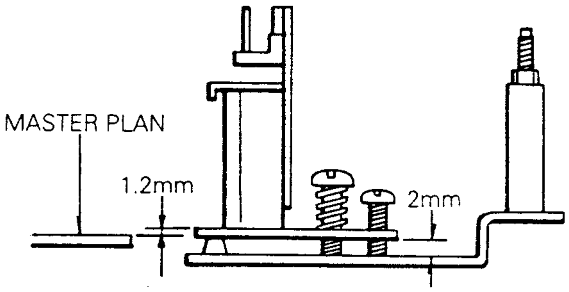

MASTER PLAN
1.2mm
2mm

Fig. C-8-3

4) Remove the adjustment fixture, load a blank tape and set the VCR to the play mode.

5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the Cone Point Screw, Azimuth Adjustment Screw and A/C Head Adjuster. When the bottom edge of tape is 0.20~0.25mm from the bottom edge of the control head's core, the height of A/C head is ideal.

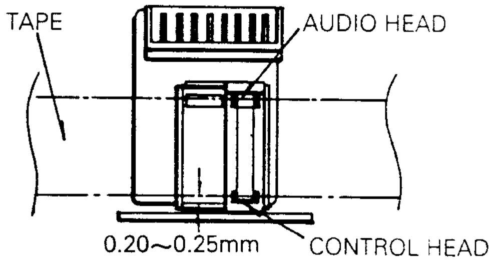

TAPE
AUDIO HEAD
0.20~0.25mm
CONTROL HEAD

Fig. C-8-4

6) Perform the precise adjustment continuously.

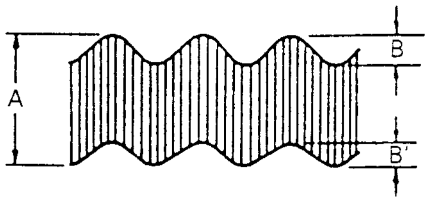
B. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Point	VCR State	Adjustment Points
● Oscilloscope	● Audio output jack	● Play an alignment tape 1KHz, 7KHz sections	● Azimuth Adjustment Screw ● A/C Head adjuster ● Cone point screw
● Alignment tapes ● M3 Nut Driver			

Adjustment Procedure

1) Connect the probe of oscilloscope to audio output jack.
2) Adjust the Azimuth Adjustment Screw, A/C Head adjuster and cone point screw slightly and alternately so that a Audio 1KHz output is maximum and flat.(minimum fluction)
3) Adjust the Azimuth Adjustment Screw slightly and alternately so that the Audio 7KHz output is maximum.

Waveform Diagram



A:Maximum BB':Minimum

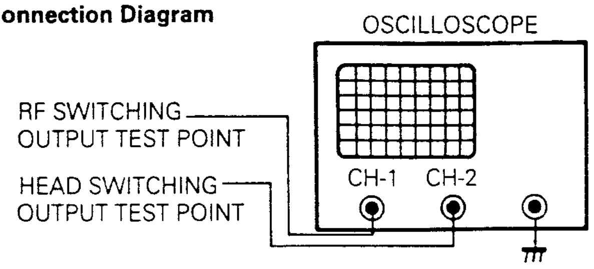
Fig. C-8-5

9. X-Value Adjustment

Purpose: To obtain compatibility with other VCRs.

Test Equipment/Jigs	Test Equipment Connection Points	VCR State	Adjustment Points
● Oscilloscope ● Alignment tapes ● Post Height Adjusting Driver	● CH-1:PB RF Envelope ● CH-2:SW 30Hz ● Head Switching Output Test Point ● RF Envelope Output Test Point	● Play an alignment tape	● X Adjust

Connection Diagram


OSCILLOSCOPE
RF SWITCHING OUTPUT TEST POINT
HEAD SWITCHING OUTPUT TEST POINT
CH-1
CH-2

1) Insert a cassette tape, and then "AUTO TRACKING" will be displayed on the Digitron, then push the Tracking ⊕ or ⊖ Keys one time as soon as possible to make the VCR release the Auto Tracking.
2) Turn the Adjust X to the maximum RF Envelope level when the VCR is free from the Auto tracking.
3) If RF envelope output is maximized from the center click position in right direction(clockwise), set the tracking control to the center and turn the X Adjust counterclockwise.
4) If in left direction(counterclockwise), turn it clockwise by same method.
5) In case of the 30 μ m, head will trace over a 60 μ m width track, readjust it so that RF Envelope output begins falling at the same angle when tracking control is turned either left or right.

Adjustment Procedure

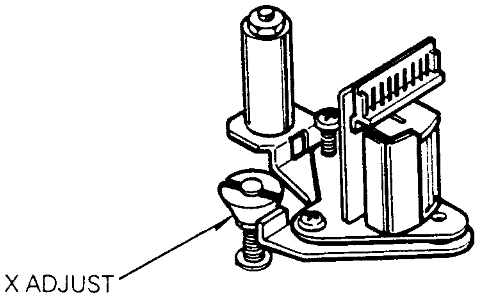


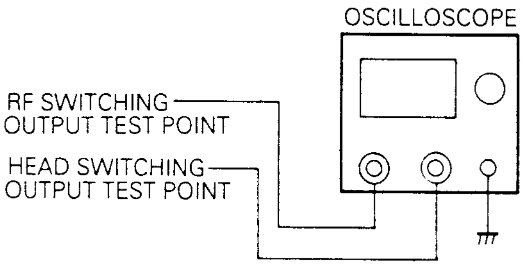
Fig. C-9

10. Adjustment after Replacing Drum Assembly(Video Heads)

Purpose: To suppress drift in the height relative to the Guide Roller and drift of the X Value after replacing the drum.

Test Equipment/Fixture	Test Equipment Connection Points	VCR State	Adjustment Points
● Oscilloscope ● Post Height Adjusting Driver ● Alignment tape ● Blank tape ● M3 Nut Driver	Checking the flatness ● CH-1:PB RF Envelope ● CH-2:SW 30Hz ● Head Switching Output Point ● RF Envelope Output Point	● Run the blank tape ● Play an alignment tape	● Guide Rollers Precise Adjustment ● Switching point ● Tracking point ● X-Value

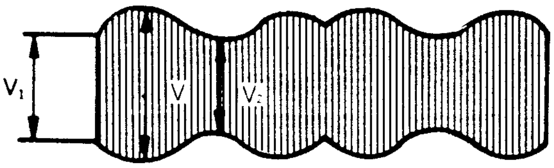
Connection Diagram


OSCILLOSCOPE
RF SWITCHING OUTPUT TEST POINT
HEAD SWITCHING OUTPUT TEST POINT

Checking/Adjustment Procedure

1) Run the blank tape, check and adjust whether the Roller Guide is curling or creasing tape around the Roller Guide.
2) Check the RF envelope output flatness and adjust the Roller Guide Height while playing an alignment tape.
3) Adjust the head switching point.
4) Check that RF envelope output is maximum when the tracking is at the center click position.
5) Adjust the Tracking Preset and X-Value Adjust with X Adjust.

Waveform Diagram



V_1/V MAX $\geq$ 0.7

V_2/V MAX $\geq$ 0.8

RF ENVELOPE OUTPUT

Fig. C-10

11. Maintenance/Inspection Procedure

(1) Required Maintenance

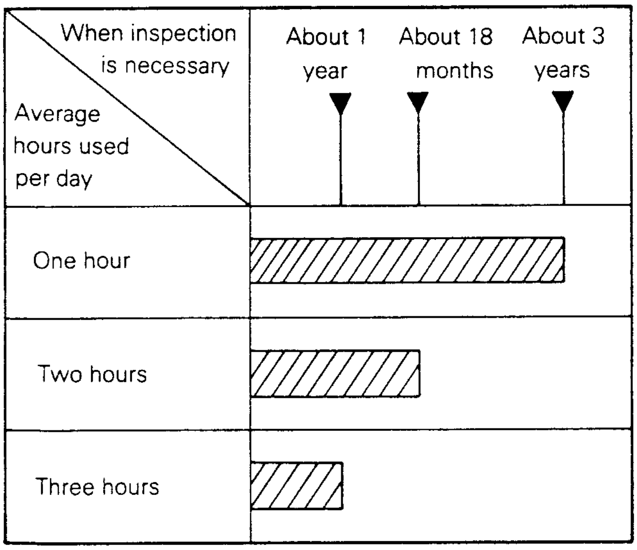
The recording density of a VCR is much higher than that of an audio tape recorder. VCR components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, are necessary.

(2) Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR, and the environment in which the VCR is used.

But, in general home use, a good picture will be maintained if the inspection and maintenance is made every 1,000hours. The table below shows the relation between time used and inspection period.

Table 1



(3) Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.

Check with the customer to find out how often the unit is used, and then determine that the unit is ready for in spection and maintenance. Check the following parts.

Table 2

Phenomenon	Inspection
Poor S/N, no color	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pressure roller, belt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Color beats	Dirt on full-erase head
Low volume or sound distorted	Dirt on audio/control head
Fast forward or rewind is not done or rotation is slow	Dirt on belt

(4) Supplies Required for Inspection and Maintenance

(1) Greases Kanto G-31(or equivalent)
(2) Alcohol(or freon)
(3) Cleaning Patches

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head

First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with alcohol or freon to the point indicated. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.

(Do not move the cleaning patch vertically and make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)

Thoroughly dry the head. Then run test tape. If alcohol or freon remains on the video head, the tape may be damaged when it comes into contact with the head surface.

(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with alcohol of freon.

Note:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which move the tape.

② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no force is applied to the system that would cause deforming.

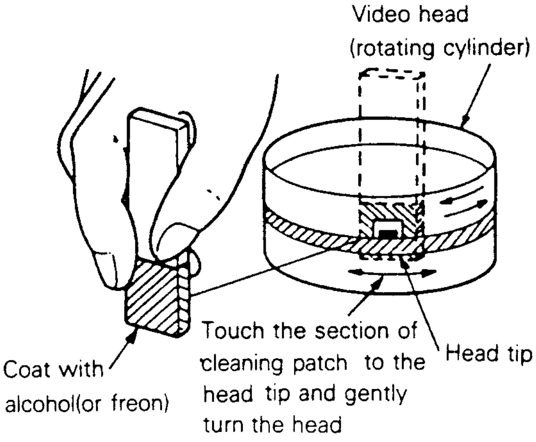

Video head
(rotating cylinder)
Coat with
alcohol(or freon)
Touch the section of
cleaning patch to the
head tip and gently
turn the head
Head tip

Fig. C-11-1

5-2) Greasing

(1) Greasing guidelines

Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport of drive system. Wipe any excess and clean with cleaning patch wetted in alcohol or freon.

(2) Periodic greasing

Grease specified locations every 5,000hours.

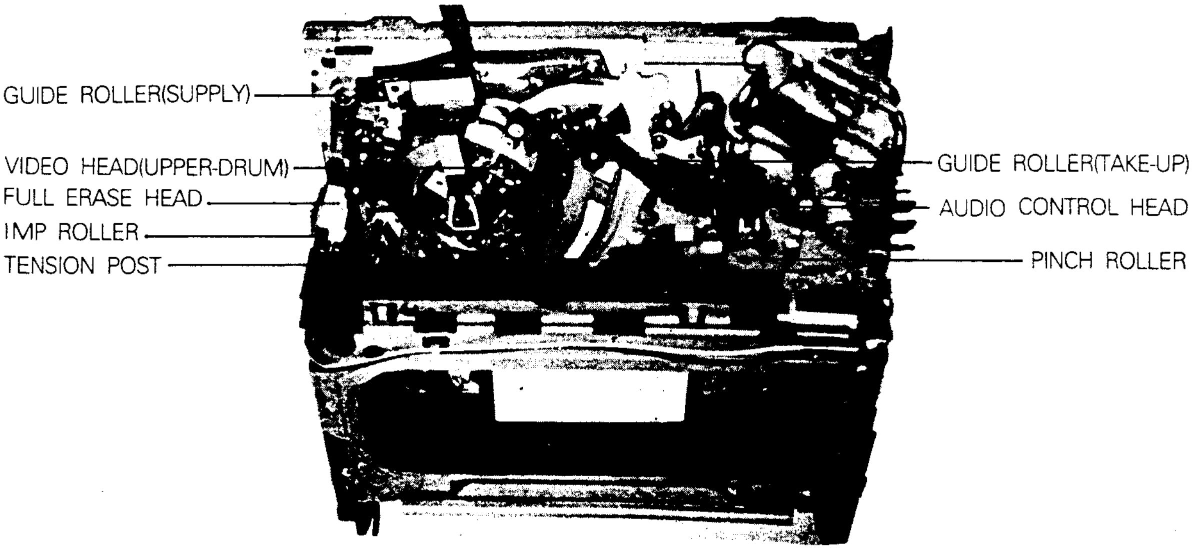

GUIDE ROLLER(SUPPLY)
VIDEO HEAD(UPPER-DRUM)
FULL ERASE HEAD
IMP ROLLER
TENSION POST
GUIDE ROLLER(TAKE-UP)
AUDIO CONTROL HEAD
PINCH ROLLER

Fig. C-11-2 **Tape Transport System**

Phenomenon	Inspection	Replacement	
Color beats	Dirt on full-erase head	○	→ ①
Poor S/N no color	Dirt on video head	○	→ ②
Vertical jitter	Dirt on video head Dirt in tape transport system	○	→ ③
Low volume, Sound distorted	Dirt on audio/control head	○	→ ④
Tape does not run. Tape is slack	Dirt on pinch roller	○	→ ⑤

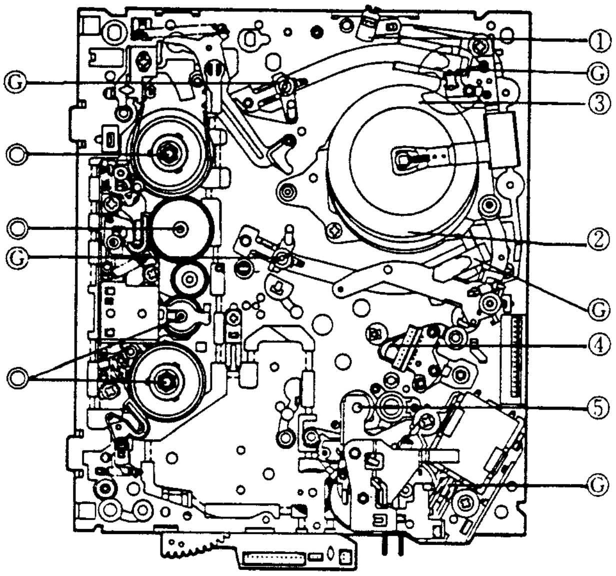


Fig. A-12 Top View of Mechanism

Phenomenon	Inspection Location	Replacement	
Do not fast forward or rewind, or rotation is slow	Dirt on reel belt	○	→ ⑥
Tape does not run			
Slack tape			

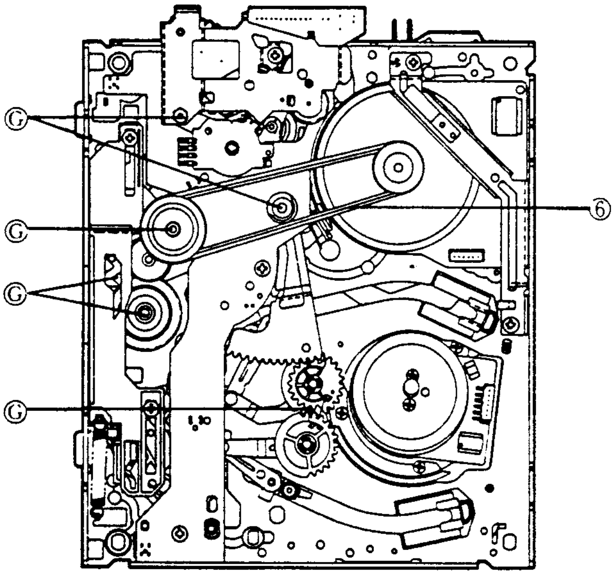


Fig. A-13 Bottom View of Mechanism

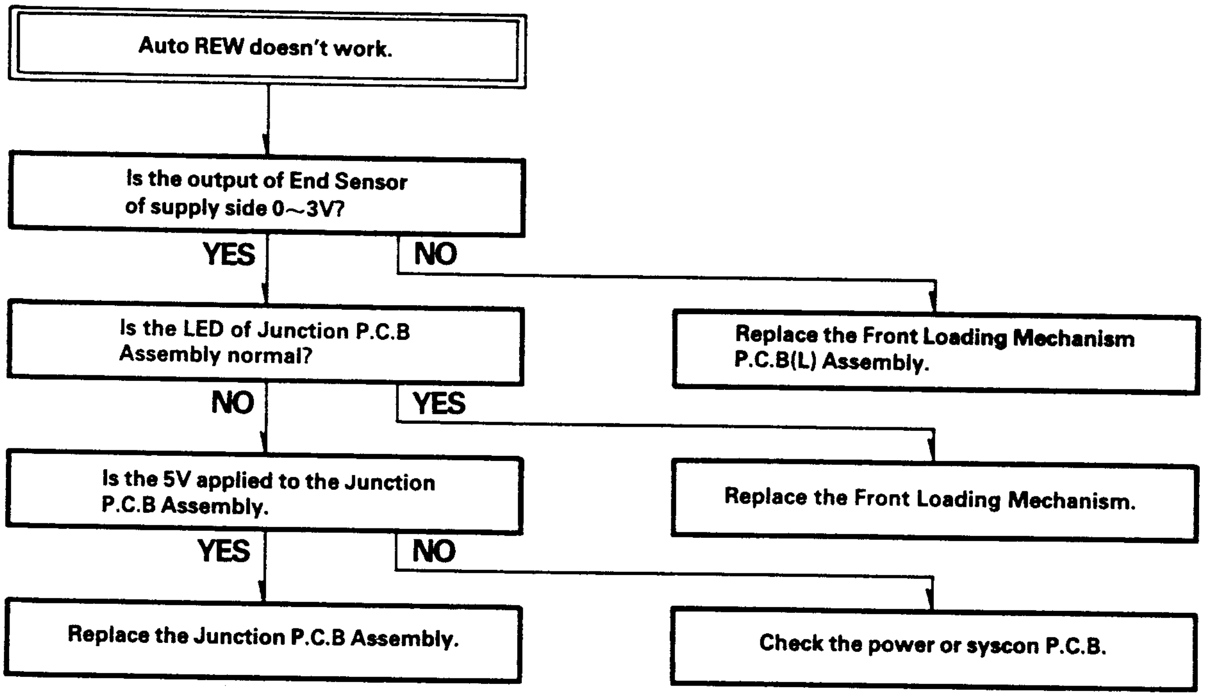
Ⓖ:Grease

Note: If locations marked with ○ do not operate normally after cleaning, check for wear and replace. See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

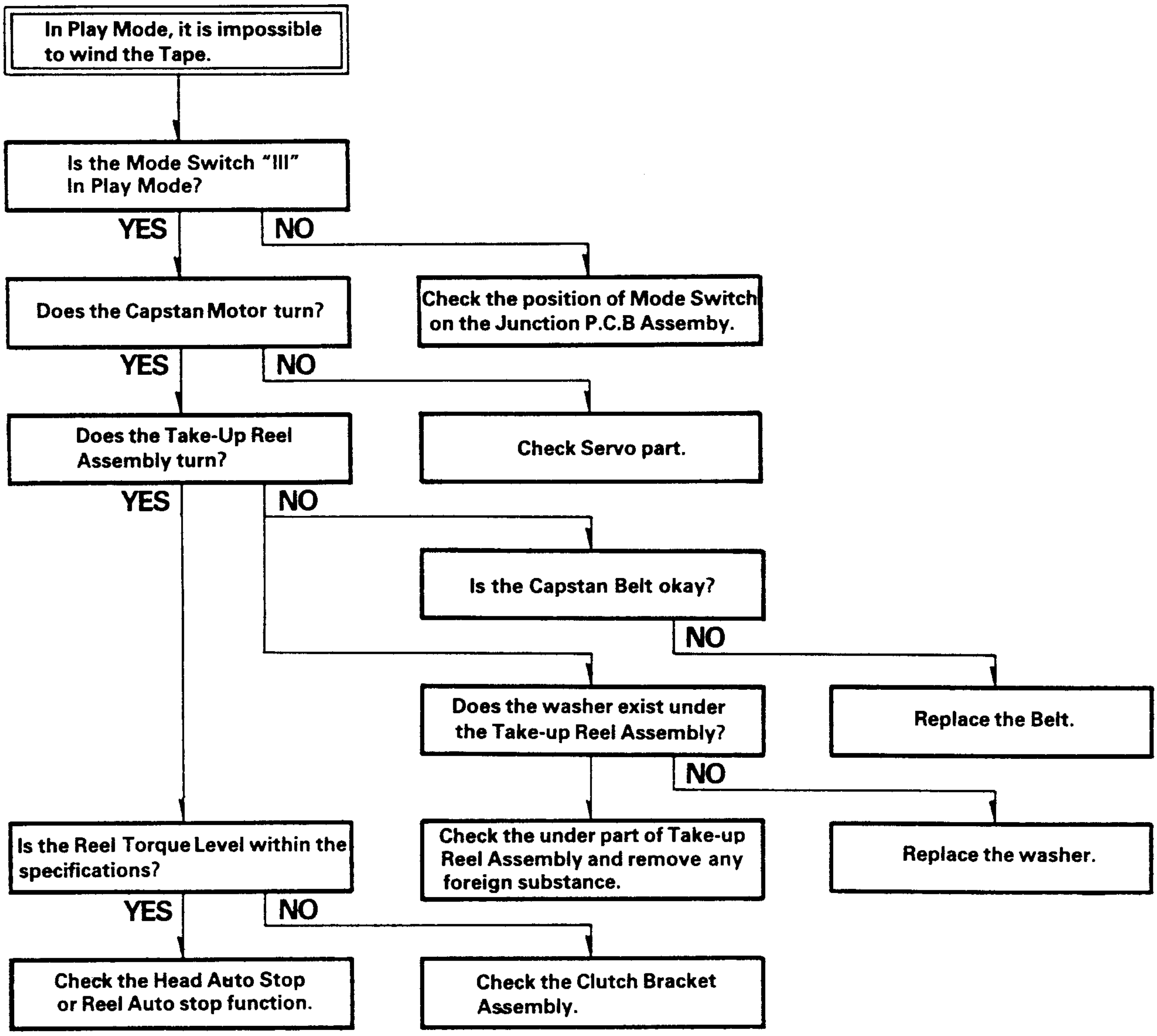
MECHANISM TROUBLESHOOTING GUIDE

1. Deck Mechanism

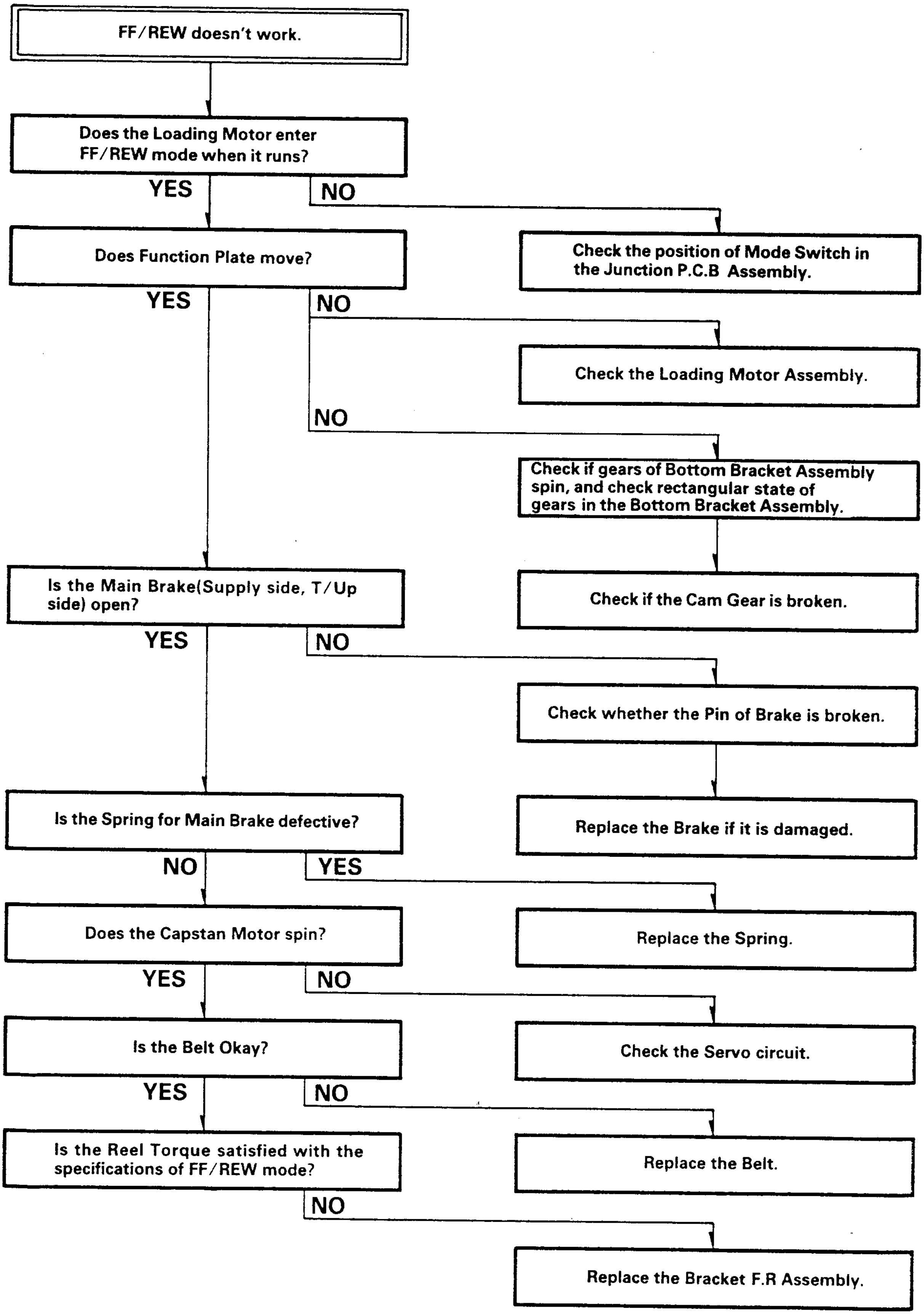
A.


Auto REW doesn't work.
Is the output of End Sensor of supply side 0~3V?
YES
NO
Is the LED of Junction P.C.B Assembly normal?
Replace the Front Loading Mechanism P.C.B(L) Assembly.
NO
YES
Is the 5V applied to the Junction P.C.B Assembly.
Replace the Front Loading Mechanism.
YES
NO
Replace the Junction P.C.B Assembly.
Check the power or syscon P.C.B.

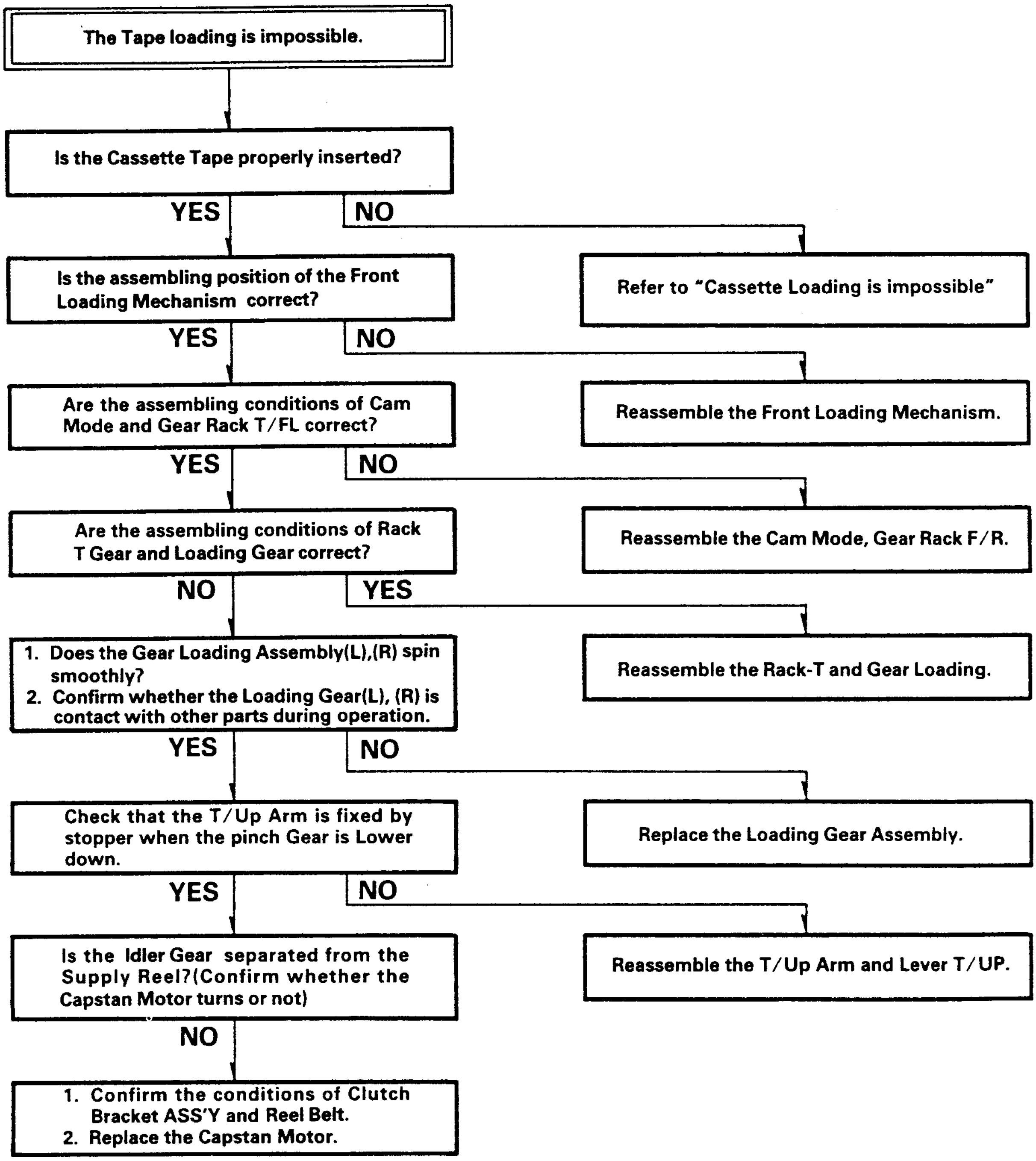
B.


In Play Mode, it is impossible to wind the Tape.
Is the Mode Switch "III" In Play Mode?
YES
NO
Check the position of Mode Switch on the Junction P.C.B Assemby.
Does the Capstan Motor turn?
YES
NO
Check Servo part.
Does the Take-Up Reel Assembly turn?
YES
NO
Is the Capstan Belt okay?
NO
Replace the Belt.
Does the washer exist under the Take-up Reel Assembly?
NO
Replace the washer.
Check the under part of Take-up Reel Assembly and remove any foreign substance.
Is the Reel Torque Level within the specifications?
YES
NO
Check the Head Auto Stop or Reel Auto stop function.
Check the Clutch Bracket Assembly.

C.

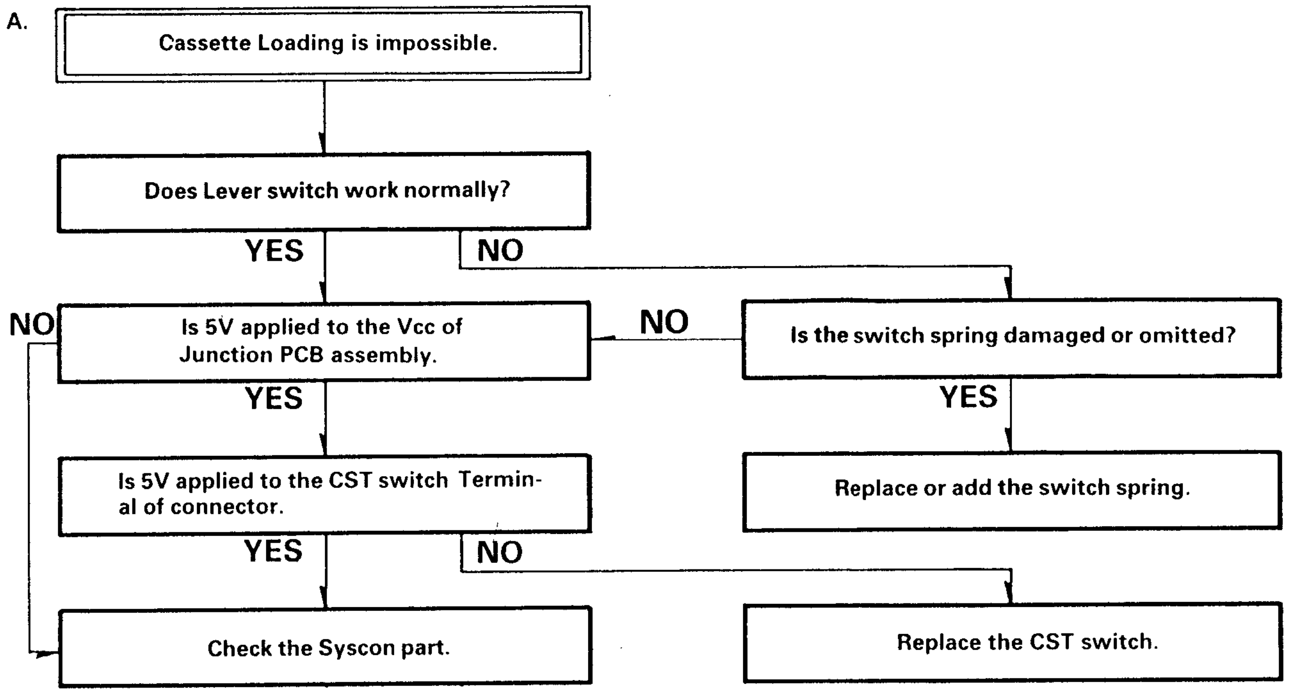

FF/REW doesn't work.
Does the Loading Motor enter FF/REW mode when it runs?
YES
NO
Check the position of Mode Switch in the Junction P.C.B Assembly.
Does Function Plate move?
YES
NO
Check the Loading Motor Assembly.
NO
Check if gears of Bottom Bracket Assembly spin, and check rectangular state of gears in the Bottom Bracket Assembly.
Check if the Cam Gear is broken.
Is the Main Brake(Supply side, T/Up side) open?
YES
NO
Check whether the Pin of Brake is broken.
Replace the Brake if it is damaged.
Is the Spring for Main Brake defective?
NO
YES
Replace the Spring.
Does the Capstan Motor spin?
YES
NO
Check the Servo circuit.
Is the Belt Okay?
YES
NO
Replace the Belt.
Is the Reel Torque satisfied with the specifications of FF/REW mode?
NO
Replace the Bracket F.R Assembly.

D.

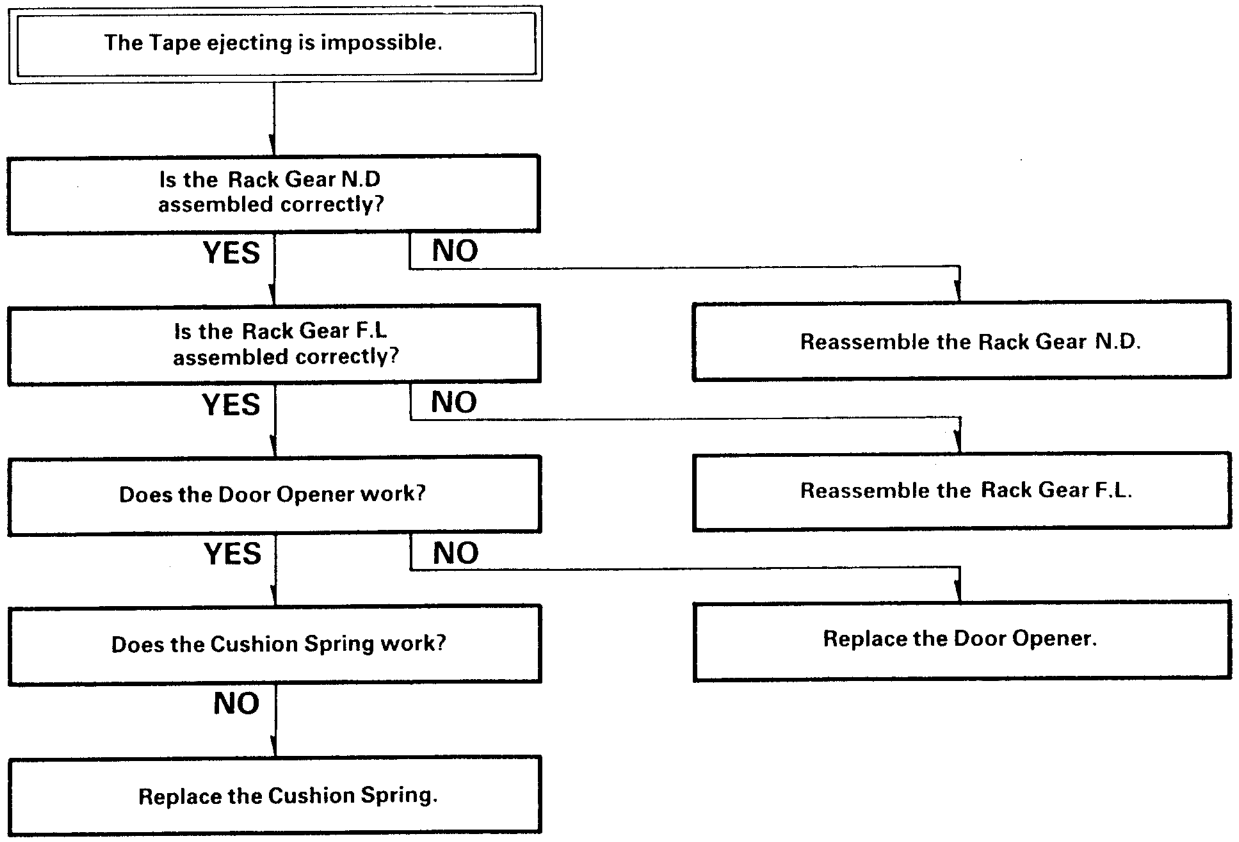

The Tape loading is impossible.
Is the Cassette Tape properly inserted?
YES
NO
Refer to "Cassette Loading is impossible"
Is the assembling position of the Front Loading Mechanism correct?
YES
NO
Reassemble the Front Loading Mechanism.
Are the assembling conditions of Cam Mode and Gear Rack T/FL correct?
YES
NO
Reassemble the Cam Mode, Gear Rack F/R.
Are the assembling conditions of Rack T Gear and Loading Gear correct?
NO
YES
Reassemble the Rack-T and Gear Loading.
1. Does the Gear Loading Assembly(L),(R) spin smoothly?
2. Confirm whether the Loading Gear(L), (R) is contact with other parts during operation.
YES
NO
Replace the Loading Gear Assembly.
Check that the T/Up Arm is fixed by stopper when the pinch Gear is Lower down.
YES
NO
Reassemble the T/Up Arm and Lever T/UP.
Is the Idler Gear separated from the Supply Reel?(Confirm whether the Capstan Motor turns or not)
NO
1. Confirm the conditions of Clutch Bracket ASS'Y and Reel Belt.
2. Replace the Capstan Motor.

2. Front Loading Mechanism

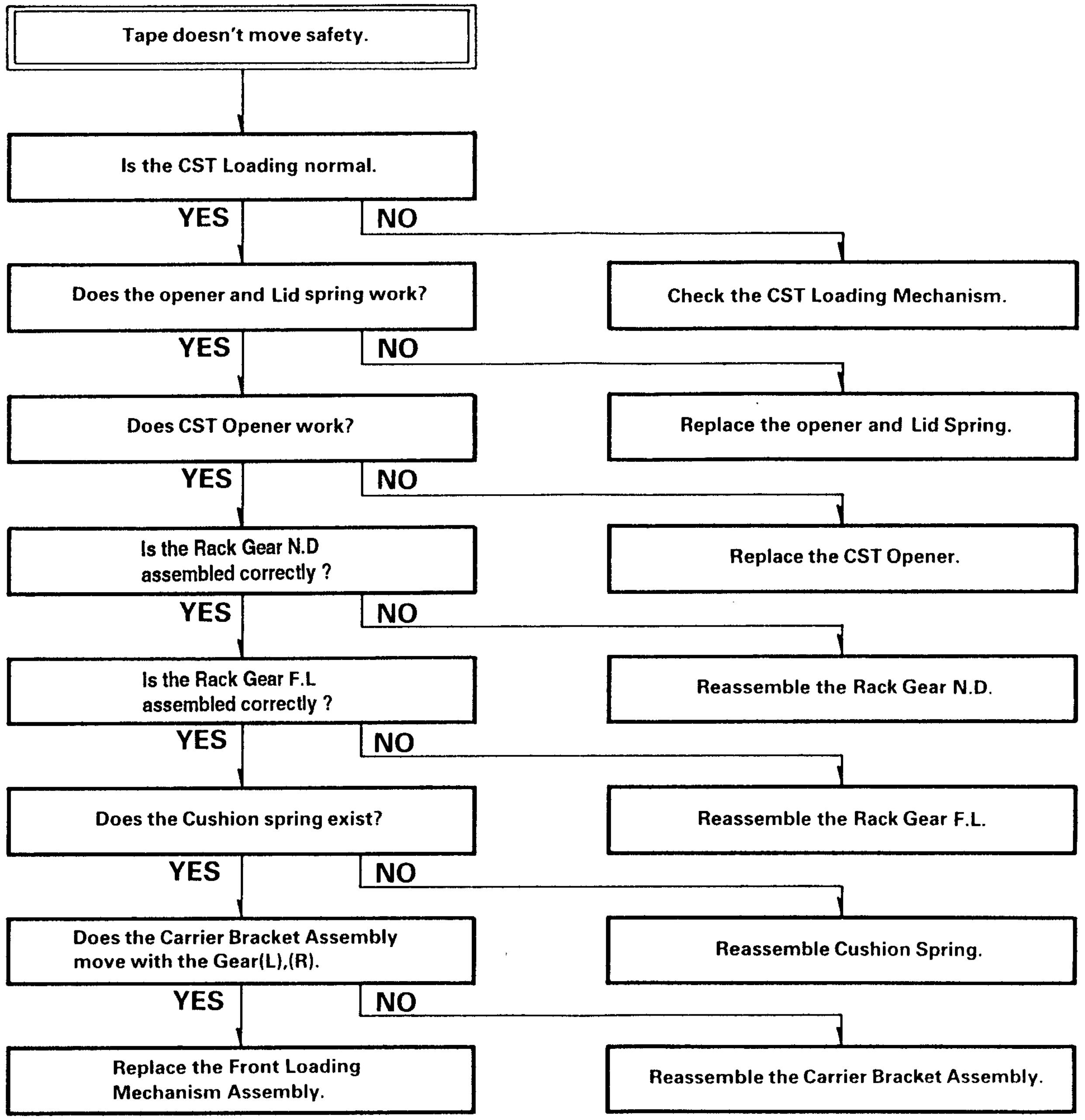
A.


Cassette Loading is impossible.
Does Lever switch work normally?
YES
NO
Is 5V applied to the Vcc of Junction PCB assembly.
NO
NO
Is the switch spring damaged or omitted?
YES
YES
Is 5V applied to the CST switch Terminal of connector.
Replace or add the switch spring.
YES
NO
Check the Syscon part.
Replace the CST switch.

B.


The Tape ejecting is impossible.
Is the Rack Gear N.D assembled correctly?
YES
NO
Is the Rack Gear F.L assembled correctly?
Reassemble the Rack Gear N.D.
YES
NO
Does the Door Opener work?
Reassemble the Rack Gear F.L.
YES
NO
Does the Cushion Spring work?
Replace the Door Opener.
NO
Replace the Cushion Spring.

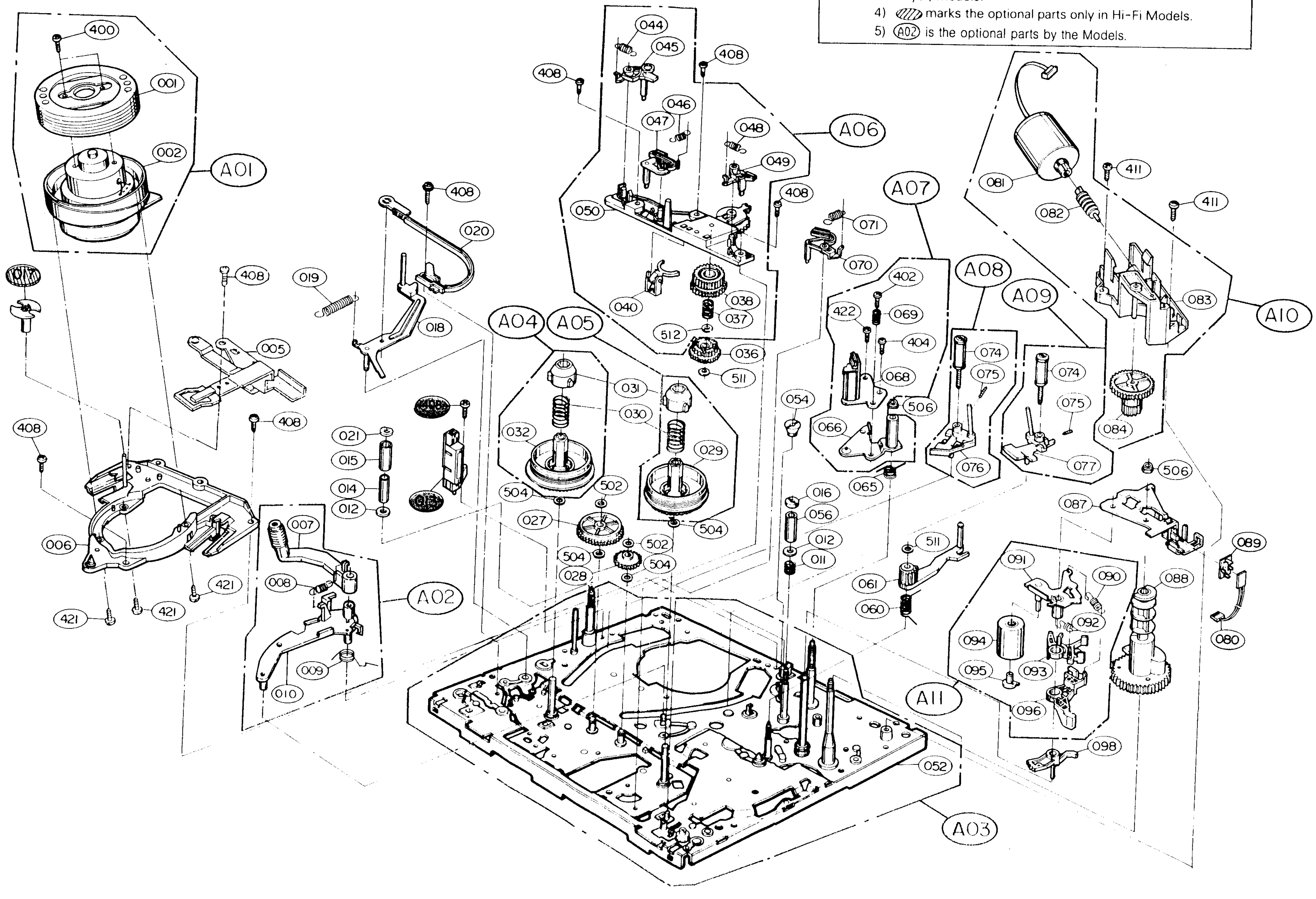
C.


Tape doesn't move safety.
Is the CST Loading normal.
YES
NO
Does the opener and Lid spring work?
Check the CST Loading Mechanism.
YES
NO
Does CST Opener work?
Replace the opener and Lid Spring.
YES
NO
Is the Rack Gear N.D assembled correctly ?
Replace the CST Opener.
YES
NO
Is the Rack Gear F.L assembled correctly ?
Reassemble the Rack Gear N.D.
YES
NO
Does the Cushion spring exist?
Reassemble the Rack Gear F.L.
YES
NO
Does the Carrier Bracket Assembly move with the Gear(L),(R).
Reassemble Cushion Spring.
YES
NO
Replace the Front Loading Mechanism Assembly.
Reassemble the Carrier Bracket Assembly.

EXPLODED VIEW

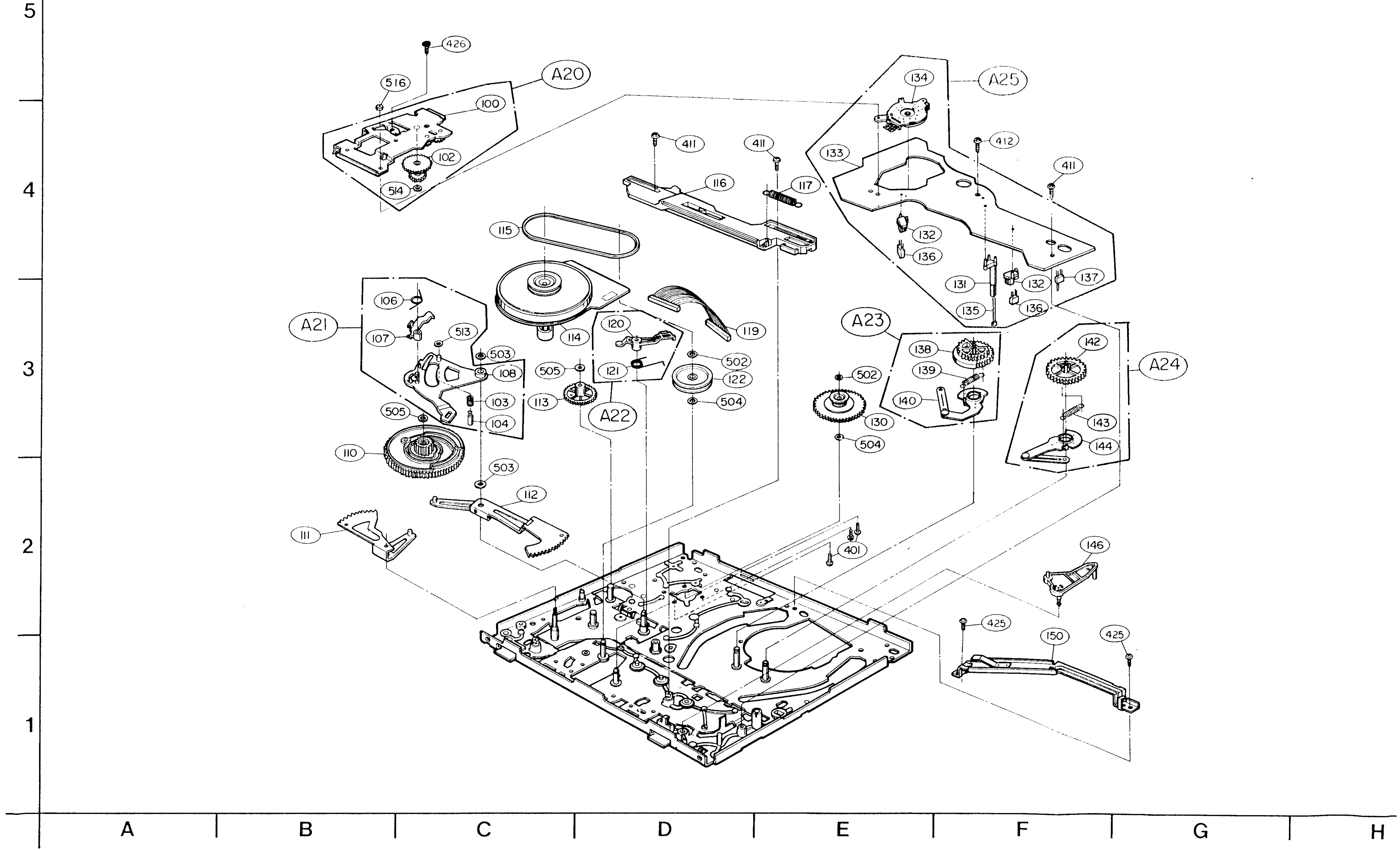
1. Moving Mechanism Section(I)

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
2) ● marks the optional parts only in VCR(Video Cassette Recorders) Models.
3) marks the optional parts only in VCP(Video Cassette Player) Models.
4) ▨ marks the optional parts only in Hi-Fi Models.
5) (A02) is the optional parts by the Models.


400
001
002
A01
013
408
005
019
020
018
006
421
421
421
007
008
009
010
A02
021
015
014
012
A04
A05
031
030
032
029
504
502
027
028
044
045
046
047
048
049
050
040
038
037
512
036
511
A06
054
016
056
012
011
A07
071
070
402
422
069
404
068
066
506
065
A08
074
075
076
A09
077
081
082
411
411
083
084
A10
506
087
089
511
061
060
091
090
092
088
094
093
095
096
A11
080
098
052
A03

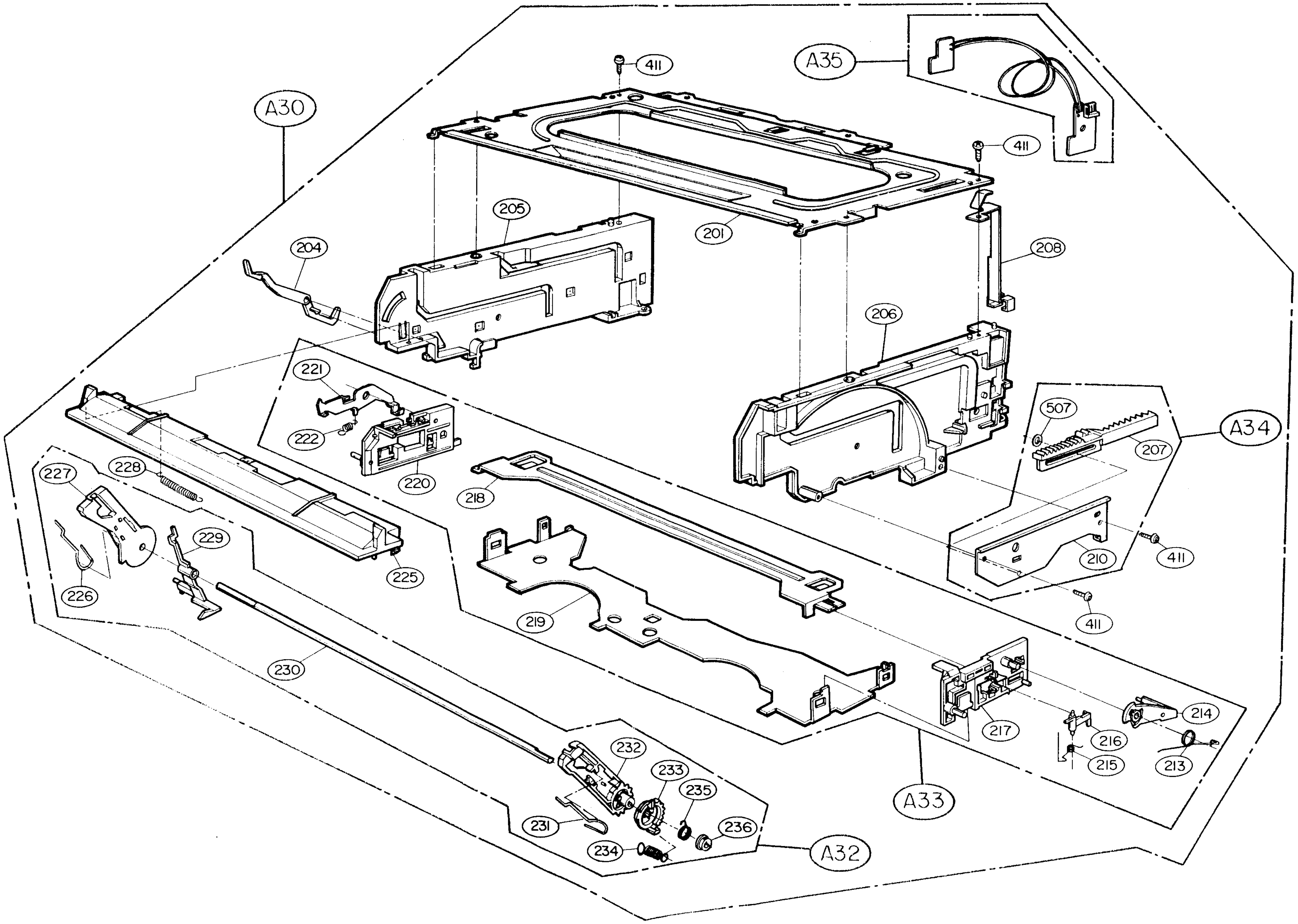
2. Moving Mechanism Section(II)

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.


5
4
3
2
1
426
A20
516
100
102
514
411
411
116
117
A25
134
133
412
411
132
136
131
132
137
135
136
115
114
119
120
121
122
502
504
A22
505
113
A21
106
107
513
503
108
103
104
505
110
503
112
111
A23
138
139
140
502
130
504
A24
142
143
144
146
401
425
150
425
A
B
C
D
E
F
G
H

3. Front Loading Mechanism Section

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.


411
A35
A30
411
205
201
208
204
206
221
222
220
218
507
207
A34
227
228
229
225
210
411
226
219
411
230
217
214
216
215
213
232
233
235
236
231
234
A33
A32

SECTION 4-2. 8 mm DECK MECHANISM

PERIODICAL CHECK AND MAINTENANCE

For the normal operation and the protection of Tape, the periodical checking and maintaining is required like the unit.
Perform the following steps after the adjustment without the used time.

1. ROTARY DRUM ASSEMBLY CLEANING

Stick the smooth swab moistened with the cleaning water fast to the rotary Drum Slightly, and then rotate the Rotary Upper Drum with a finger to the counter-clockwise slowly.

NOTE :
Be careful so the Motor is not to rotate the Drum and not to rotate to the clockwise. Do not use the swab moistened with the cleaning water to the Head Vertically.

2. TAPE LOADING COURSE CLEANING

Set the Cassette Compartment to the Eject State or remove it, and then wipe the Tape loading Course (No. 1 Guide~No. 7 Guide Capstan Shaft, Pinch Roller) with the Chamois Leather Moistened in cleaning water.

3. DRIVE SYSTEM CLEANING

Wipe the Drive System (Timing Belt, Surface of Reel Table etc.) with the Chamois Leather moistened in cleaning water.

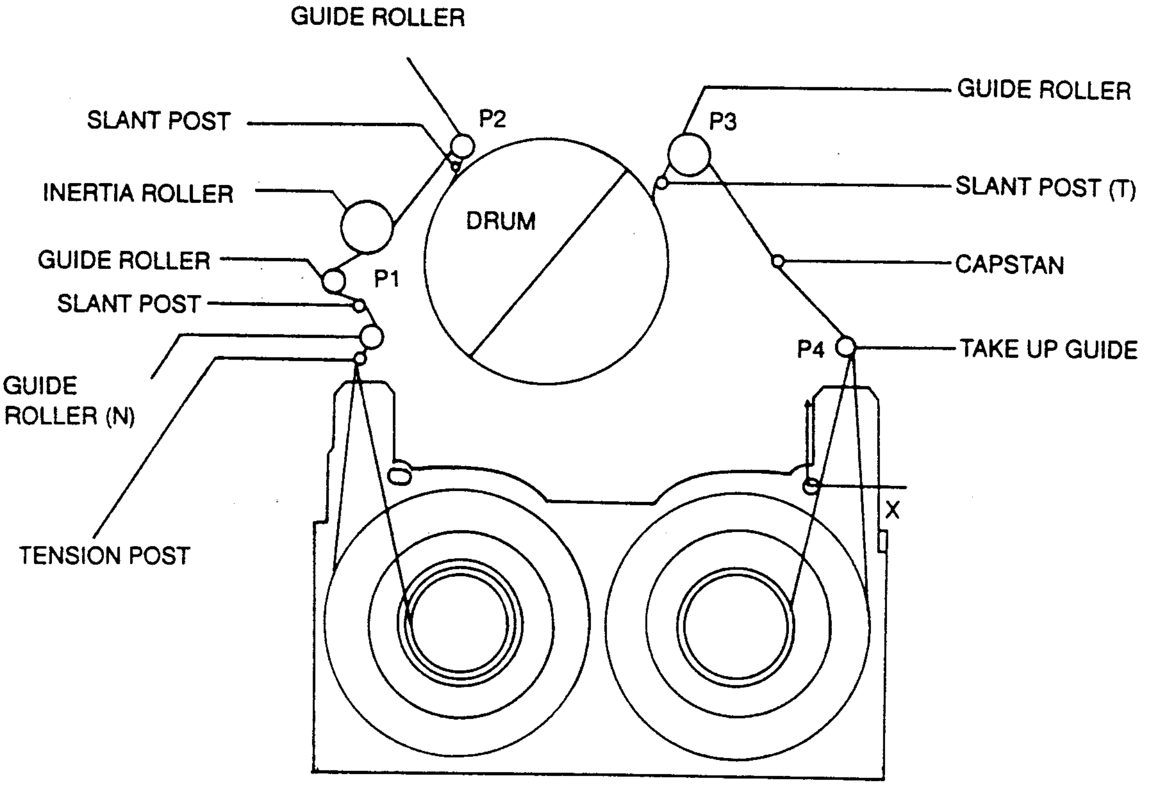

GUIDE ROLLER
SLANT POST
P2
GUIDE ROLLER
P3
INERTIA ROLLER
SLANT POST (T)
DRUM
GUIDE ROLLER
CAPSTAN
P1
SLANT POST
P4
TAKE UP GUIDE
GUIDE
ROLLER (N)
X
TENSION POST

Fig. 4-1-1

4. MAINTENANCE TIME TABLE

○ Cleaning ◎Oiling ☆Checking

Check Parts		Time (Hours) (H)										Remarks
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Cleaning and Demagnetizing	Tape path surfaces Cleaning	○	○	○	○	○	○	○	○	○	○	Be careful about oil
	Rotary drum assembly Cleaning and demagnetizing	○	○	○	○	○	○	○	○	○	○	Be careful about oil
Drive System	Relay belt	–	☆	–	☆	–	☆	–	☆	–	☆	
	Capstan shaft	–	◎	–	◎	–	◎	–	◎	–	◎	Be careful about that the Oil do not drop on the surface of Tape Path
	Idler pulley axle	–	◎	–	◎	–	◎	–	◎	–	◎	
	Loading Motor	–	☆	–	☆	–	☆	–	☆	–	☆	
Performance Check	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Brake tension Measurement	–	☆	–	☆	–	☆	–	☆	–	☆	
	Brake system	–	☆	–	☆	–	☆	–	☆	–	☆	
	FWD, RVS torque Measurement	–	☆	–	☆	–	☆	–	☆	–	☆	

NOTE :
During checking the Unit, refer the Time Table above for the parts change etc.

Oiling :

- Use the regular Oil always. (If the unregular oil is used, the Unit may get demaged.)
- Apply the clean oil on the position used the shaft bearing.
- "Oil 1 drop" means the quantity of degree hanged to the end of 2mm Stick with diameter. (Refer to Fig. 4-1-2)

Grease :

- Use the regular Grease.

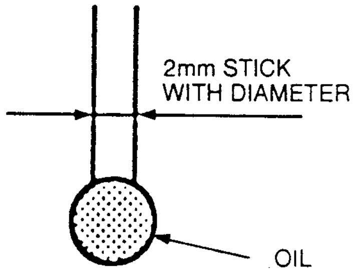


Fig. 4-1-2

DECK MECHANISM DISASSEMBLY AND REASSEMBLY

1. Front Loading Mechanism

1-1. Housing Ass'y Disassembly

1) Disassembly (Fig. 4-2-1)
   (1) Set the unit to the ULC Mode (Unloading Mode).
   (2) Remove 4 Screw(1) on the upper part and then remove the Housing Ass'y CST.

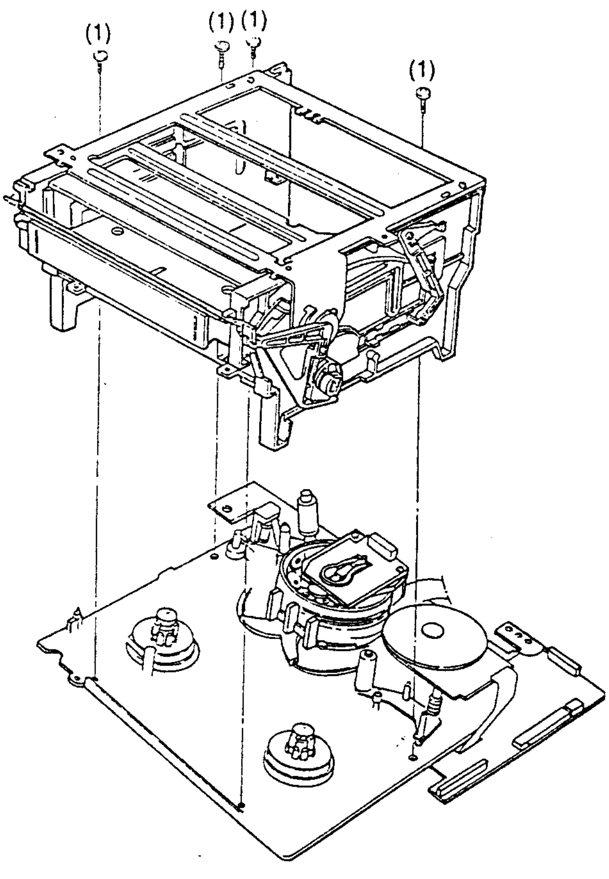


Fig. 4-2-1

2. DC MOTOR (Capstan motor) ASS'Y

2-1. Disassembly (Fig. 4-2-2)

(1) Set the Unit on the ULC Mode (Unloading).
(2) Remove the DC Motor Ass'y by releasing 3 Screws(3) on the lower part of the Chassis.

2-2. Reassembly (Fig. 4-2-2)

(1) Engage the Capstan Gear with the conversion Gear by fixing the 2 Guider bosses and 3 Guider Holes on the Upper part of Chassis into the 2 Guider Holes on the Capstan Gear.
(2) Set the DC Motor Ass'y with 3 Screws(3) on the Lower part of Chassis.

NOTES :

- Use the about 2kgfcm Torque to fix Screw.
- Do not engage with the Gears by forces, because the Capstan Gear is easy to get demaged.
- Stick the DC Motor fast to the Chassis completely.
- Do not touch the Capstan motor Axle, Oil Seal and Rotor.

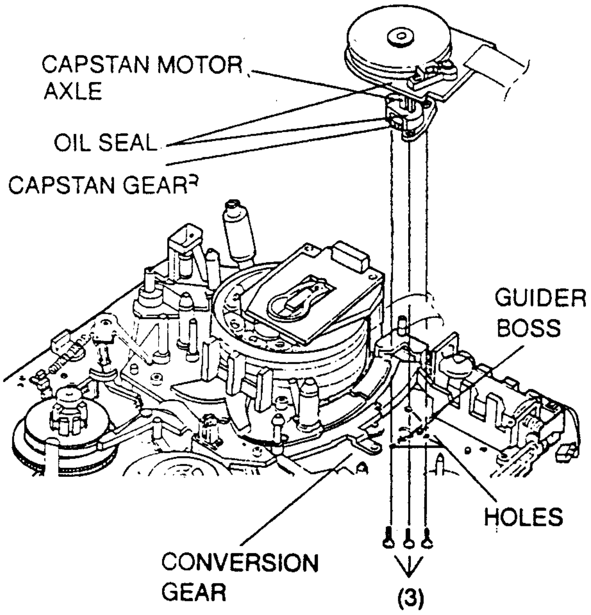


Fig. 4-2-2

3. PINCH ARM ASS'Y AND PINCH LEVER ASS'Y

3-1. Disassembly (Fig. 4-2-3)

(1) Set the Unit to the ULC Mode.
(2) Remove the Pinch Arm Ass'y by removing the stopper Washer.
(3) Remove the Pinch Lever Ass'y.

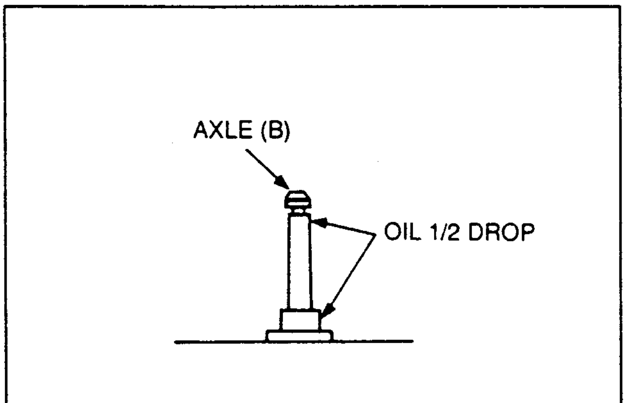

AXLE (B)
OIL 1/2 DROP

Fig. A

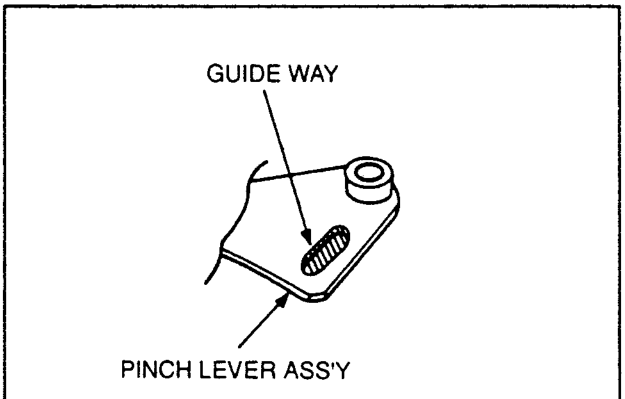

GUIDE WAY
PINCH LEVER ASS'Y

Fig. B

3-2. Reassembly (Fig. 4-2-2, 4-2-3)

(1) Apply Oil 1/2 drop to the Axle(B) 2 point.
(2) Apply greese in the in side of Guide on the Pinch Lever Ass'y (Fig. B).
(3) Stick the Axle(A) of Pinch Lever Ass'y in the Axle B and assemble so the Roller is to be approached to the Guide Way.
(4) Assemble so the Pinch Lever Ass'y pin is sticked in the ⓐ point by inserting the Pinch Arm Ass'y Axle(C) in the Axle (reassembling state).
(5) Set the Stopper Washer.

NOTES :

- Be careful the Nut is not to touch the Rubber Roller when reassembling the Pinch Arm Ass'y to Axle.
- Be careful the object material is not to stain the outer surface of Rubber Roller.

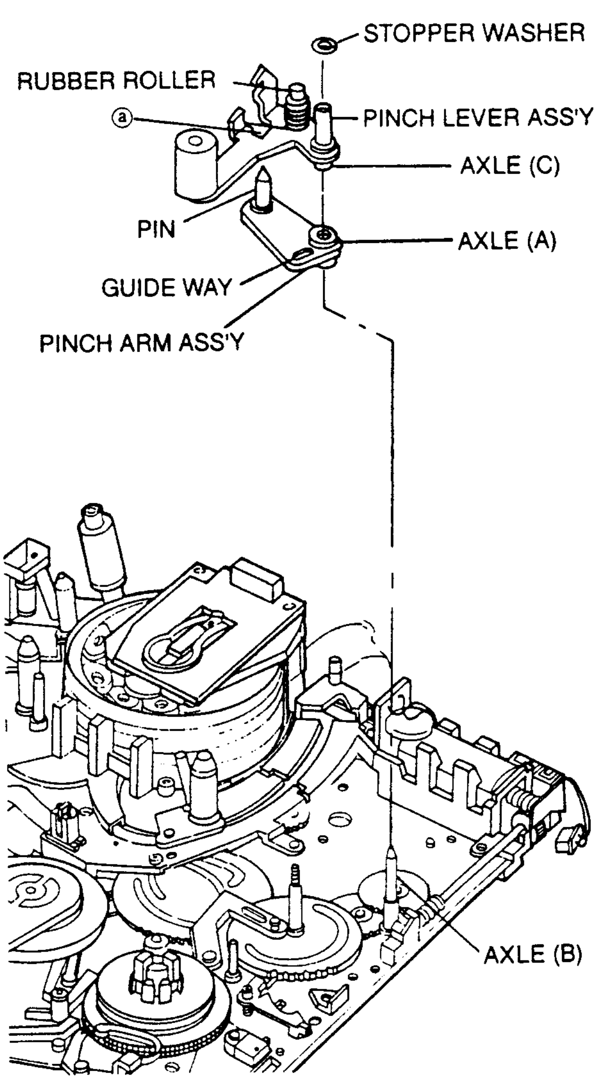

STOPPER WASHER
RUBBER ROLLER
ⓐ
PINCH LEVER ASS'Y
AXLE (C)
PIN
AXLE (A)
GUIDE WAY
PINCH ARM ASS'Y
AXLE (B)

Fig. 4-2-3

4. TAKE UP ARM ASS'Y

4-1. Disassembly (Fig. 4-2-4)

(1) Set the Unit to the ULC Mode.
(2) Remove Nut(A) by using the (-) Driver.
(3) Remove Nut(B) by using the exclusive Driver.
(4) Remove the Slide Washer.
(5) Remove the Take Up Arm Ass'y.
At this time, remove after the Spring Arm ⓐ point is to be supported to the Vertical Bending part ⓑpoint of Take Up Arm Ass'y.
(6) Remove the Spring.

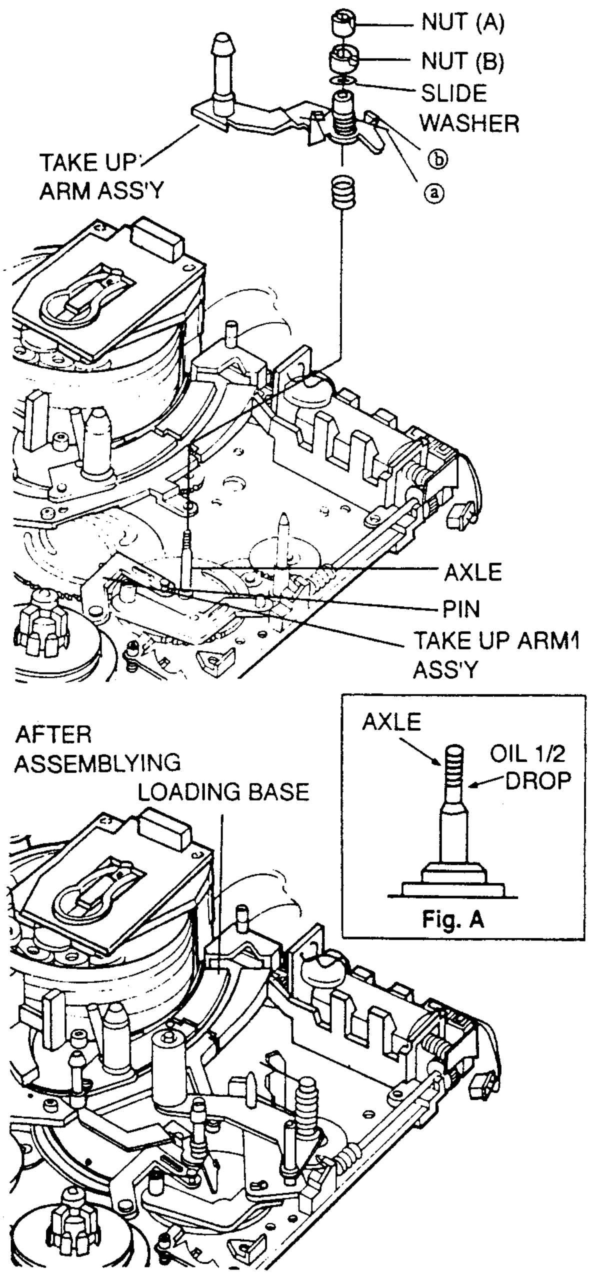

NUT (A)
NUT (B)
SLIDE WASHER
ⓑ
ⓐ
TAKE UP ARM ASS'Y
AXLE
PIN
TAKE UP ARM ASS'Y
AFTER ASSEMBLYING
LOADING BASE
AXLE
OIL 1/2 DROP
Fig. A

Fig. 4-2-4

4-2. Reassembly (Fig. 4-2-4)

(1) Apply the Oil 1/2 drop on the Axle.
(2) Assembly the Compression Spring, Take Up Arm Ass'y, Slide Waher, Nut(B) and Nut(A) to the Axle.
(3) Strain the Spring Arm ⓐ point of Take Up Arm Ass'y to the front to be stopped by sticking in the in side of Take Up Lever Ass'y Pin.

4-3. Take Up Arm Ass'y Height Adjustment

(1) Adjust to 3mm the height between the Cassette install standard side of Loading Base and the Frange Upper side of Take Up Arm Ass'y.

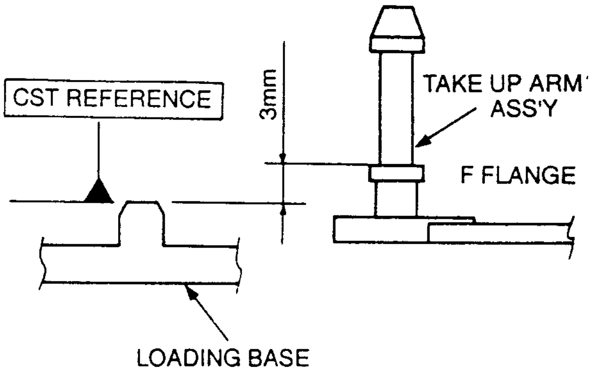

CST REFERENCE
3mm
TAKE UP ARM ASS'Y
F FLANGE
LOADING BASE

Fig. B

NOTES :

- Do not force the Spring Arm unreassembly during disassembly and reassembly, it may cause the transformation of spring.
- Readjust the Take Path after reassembly.

5. MODE LEVER ASS'Y and TAKE UP LEVER ASS'Y

5-1. Disassembly (Fig. 4-2-5)

(1) Set the Unit to ULC Mode.
(2) Remove the Stopper Washer and then remove the Mode Lever Ass'y.
(3) Remove the Stopper Washer and then remove the Take Up Lever Ass'y.

5-2. Reassembly (Fig. 4-2-4, 4-2-5)

(1) Apply the Grease in the CAM trace ⓐ of Mode Gear.
(2) Apply the Oil 1/2 drop to the Axle.
(3) Stick the Mode Lever Ass'y pin in the CAM trace ⓐ of Mode Gear and then assemble the Mode Lever Ass'y to the Axle(A).
(4) Set the Stopper Washer.
(5) Apply the Oil 1/2 drop to the Axle(B).
(6) Stick the Take Up Lever Ass'y pin in the CAM trace ⓑ of CAM Gear and then assemble the Take Up Lever Ass'y to the Axle.
(7) Set the Stopper Washer.

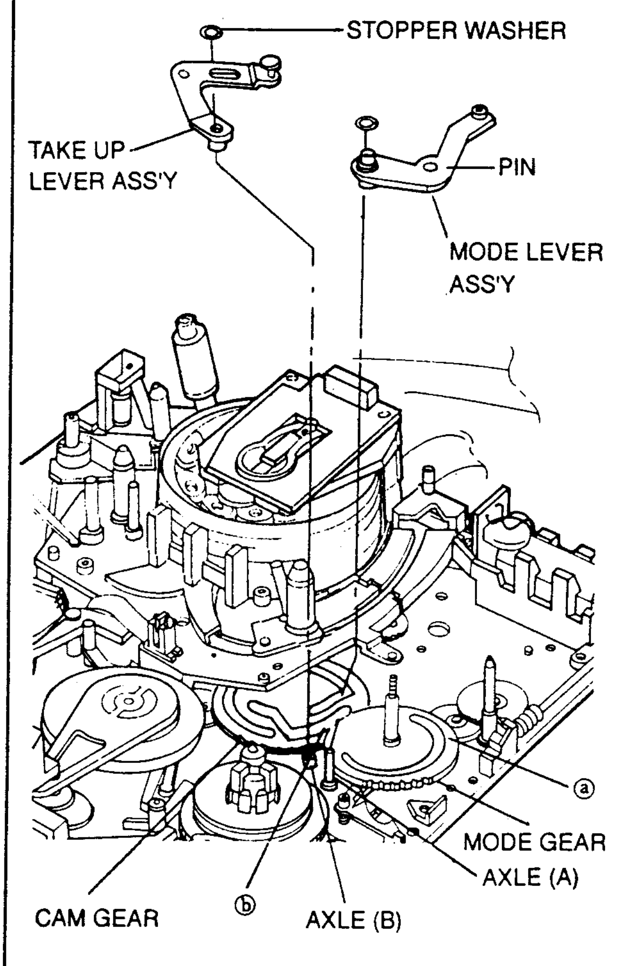


Fig. 4-2-5

6. SOFT BRAKE ASS'Y AND T/BAND PROTECT

6-1. Disassembly (Fig. 4-2-6)

(1) Set the Unit to the ULC Mode.
(2) Hook the Spring Arm point ⓒ stuck in the Vertical Bending part point ⓑ on the Upper part of Chassis to the Spring hanger of Soft Brake Ass'y.
(3) Remove the Stopper Washer and then remove the Soft Brake Ass'y.
(4) Release the Screw and remove the T/Band Protect.

6-2. Reassembly

(1) Stick the T/Band Protect in the Sensor Bracket point ⓐ.
(2) Set the Screw to point ⓐ using the (+) Driver.
(3) Set the Soft Brake Ass'y to the Axle.
(4) Set the Stopper Washer.
(5) Assemble the Spring Arm point ⓒ stuck in the Soft Brake Ass'y supports the Vertical Bending part point ⓑ on the upper part of Chassis.

NOTES :

- Use the about 1.2kgf • cm Torque to fix the T/Band Protect Set Screw.
- Do not force the Spring Arm ⓒ unreassembly, it may cause the transformation of Spring.
- During T/Band Protect assembling, be careful the Reel Ass'y Gear not to be denaged.

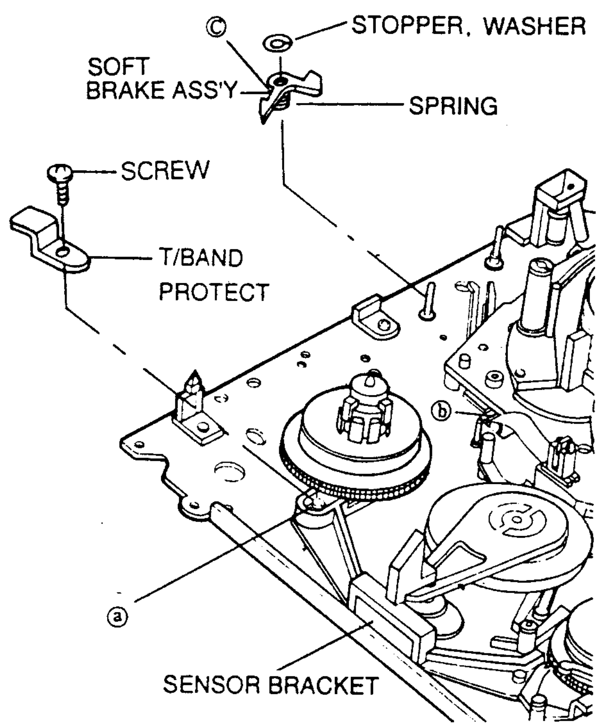


Fig. 4-2-6

7. TENSION REGULATOR ASS'Y AND SLANT ROLLER ARM ASS'Y

7-1. Disassembly (Fig. 4-2-6, 4-2-7)

(1) Set the Unit to the ULC Mode.
(2) Hook the Spring Arm point ⓐ to the Spring Hanger point ⓔ of Slant Roller Arm Ass'y.
(3) Remove the Stopper Washer and the remove the Slant Roller Arm Ass'y.
(4) Remove the Spring Hook of Tension Regulator Ass'y from the Spring Hanger point ⓒ of Bracket.
(5) Remove the Screw using the (+) Drive.
(6) Remove the Stopper Washer and then remove the Tension Regulator Ass'y.
(7) Remove the Slide Washer.

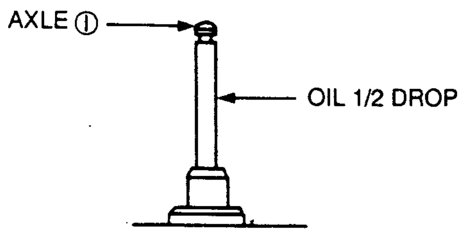


Fig. A

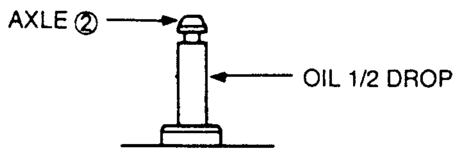


Fig. B

NOTES :

- Be careful so the Band is not to be distarted or folded and the Felt is not to be dirted by an object material during disassembly the Tension Regulator Ass'y.
- Be careful so the Roller surface is not to be dirted by an object material during disassembling the Slant Roller Arm Ass'y.

7-2. Reassembly (Fig. 4-2-7, 4-2-8)

(1) Assemble the Slide Washer to the Axle ②.
(2) Apply the Oil 1/2 drop to the Axle ②.
(3) Assemble the Felt side of T/Band Ass'y with the point ⓕ part of S-Reel Ass'y correctly by sticking the Tension Regulator Ass'y on the Axle.
(4) Assemble the Bracket Guider boss of T/Band Ass'y to accord with the Guide Hole on the upper part of Mechanism Chassis, and then set the Screw.
(5) Assemble the Stopper Washer on the Axle ②.
(6) Put up the Spring Hook at the middle point of Bracket Spring Hanger ⓒ.
(7) Apply the Oil 1/2 drop to the Axle ①.
(8) Assemble the Slant Roller Arm Ass'y on the Axle ①.
(9) Set the Stopper Washer to the Axle ①.
(10) Adjust the position of Tension Regulator FWD.
(11) Put up the Spring Hook ⓑ at the middle Claw of Bracket Spring Hanger ⓒ on the T/Band Ass'y.

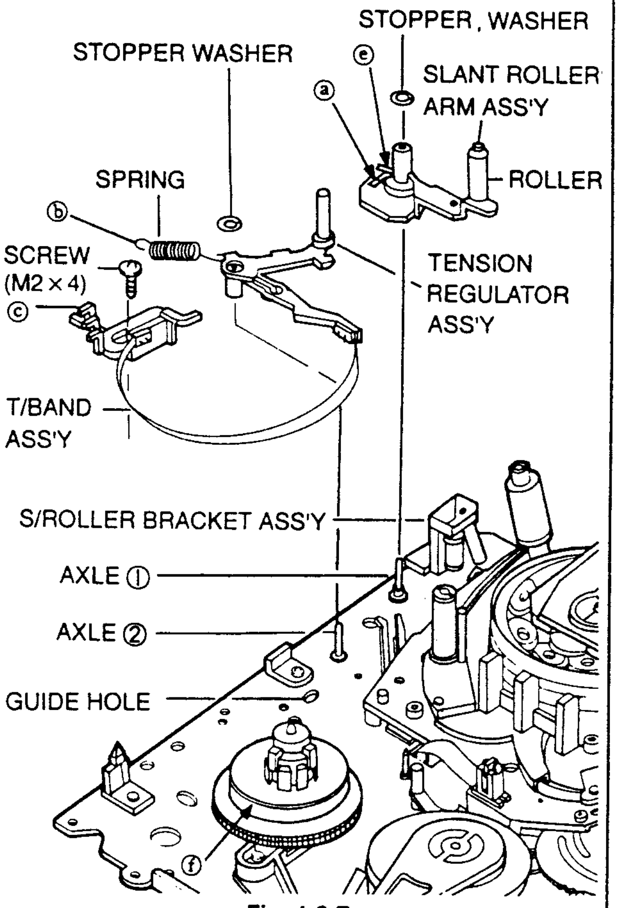


Fig. 4-2-7

NOTES :

- During assembling the Tension Regulator Ass'y, be careful the Band is not to be distorted or folded and the Felt is not to be dirted by an object material.
- Use the about 1.2kgf • cm Torque to fix the Bracket Set Screw.
- During assembling the Slant Roller Arm Ass'y, be careful the Roller surface is not to be dirted by an object material.

8. TENSION REGULATOR FWD POSITION AND BACK TENSION ADJUSTMENTS

8-1. FWD position Adjustment

(1) Set the Unit to the FWD Mode after Loading a Cassette Tape. (Loading make)

(2) Make Sure the gap between the edge of cap on the Tension Regulator Ass'y and the edge of Boss point ⓐ on the Slant Roller Arm Ass'y is 0.5~1mm.
If the gap is over the range, adjust the next step after ejecting the Cassette Tape.

(3) Remove the Set Screw of the Bracket on the T/Band Ass'y.

(4) If the measuring gap is farther than the range, draw the Bracket up to the Direction of arrow Ⓐ, and if the gap is nearer than the range, thrust the Bracket to the direct on of arrow Ⓐ, and then set the Screw.

(5) Check the gap is in the range value by adjusting steps(1), (2) repeatedly.

NOTES :

- Use a Cassette Tape wound about half.

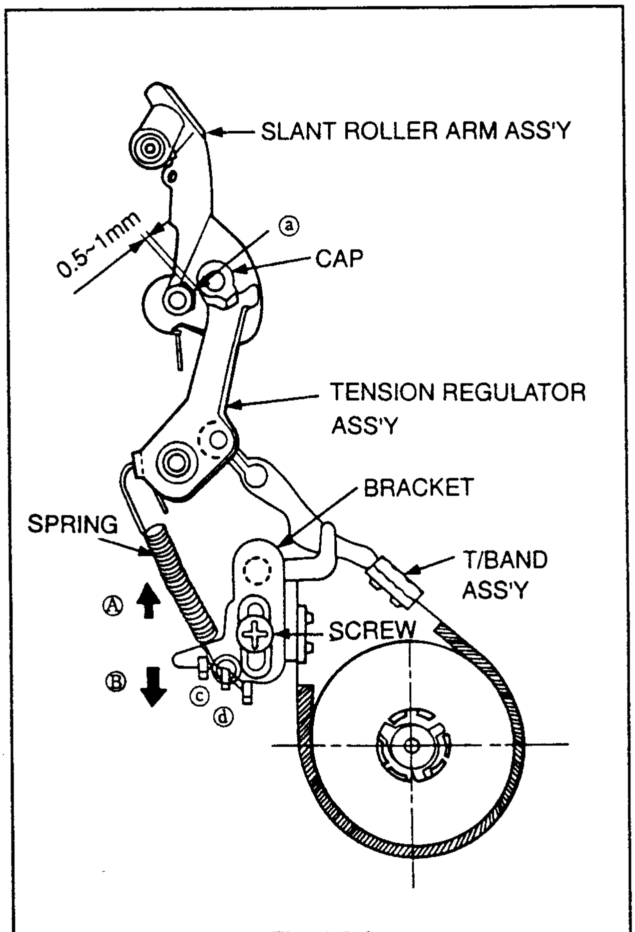


Fig. 4-2-8

8-2. Back Tension Adjustment (Fig. 4-2-8)

(1) Load the Torque Cassette Tape in the Unit and set the Unit to Ope-Mode after step, adjustment. (Forward Play Mode).

(2) Check the Back Tension Torque of the Supply side is in 6.5±2(gf • cm).

(3) Otherwise, adjust the Spring hanger position of Bracket as follows;

(4) If the measurment value is more than the range, put the Spring Hook up to the Hanger ⓒ, and if it is less than the range, put the Spring Hook up to the Hangerⓓ.

(5) Make sure the Back Tension is in the range value by adjusting steps(1), (2) repeatedly.

8-3. Reel Torque Checking

(1) Load the Torque Cassette Tape in the Unit.

(2) Set the Unit to FWD Mode and check the Torque on the T Reel Table is in 12.5±4gf • cm.

(3) Set the Unit to REV Mode and Check the Torque on the S Reel Table is in 12.5±4gf • cm.

(4) Set the Unit REV Mode and Check the Torque on the T Reel Table is in 12.5±4gf • cm.

(5) If each Torque Value is over the range, change the Reel table.

9. WORM GEAR ASS'Y MIDDLE GEAR, TRANS GEAR ASS'Y, LOADING MOTOR ASS'Y AND BRACKET ASS'Y

9-1. Disassembly (Fig. 4-2-9-1, 4-2-9-2)

(1) Remove the Screw for removed the Loading Motor Ass'y (Fig. 2-9-2). At this time, the Worm Gear Ass'y is disassembled simultaneously with the Loading Motor Ass'y ⓐ and Worm Gear Ass'y ⓑ in gear together. (Fig. 4-2-9-1)
(2) Remove the Loading Motor Ass'y and Worm SHAFT Ass'y. (Fig. 4-2-9-1)
(3) Remove the Stopper Washer and remove the Trans Gear Ass'y.
(4) Remove the Stopper Washer and remove the Middle Gear.
(5) Release the Screw to remove the Bracket Ass'y.

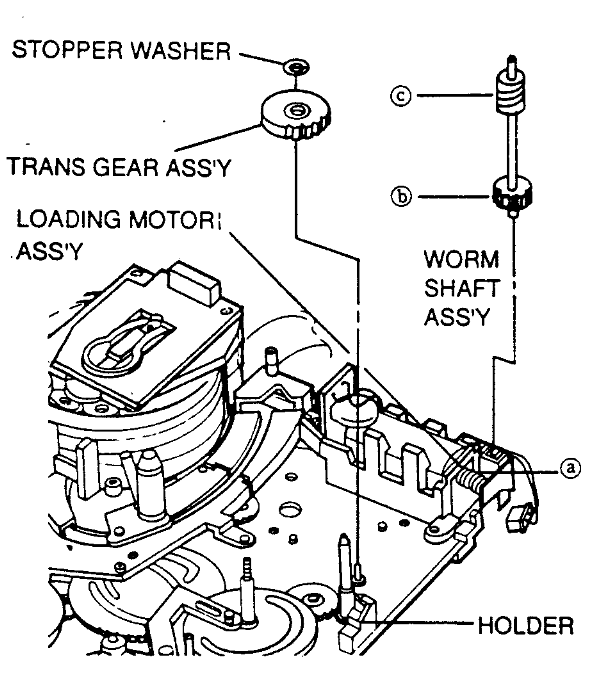


Fig. 4-2-9-1

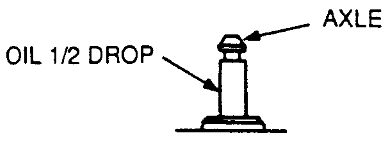


Fig. A

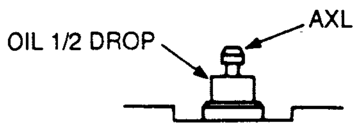


Fig. B

9-2. Reassembly (Fig. 4-2-9-2)

(1) Assemble the Guide Bosses 2 points of Bracket Ass'y to accord with the Guide Holes "ⓐ" and "ⓑ" on the upper part of Mechanism Chassis, and then set the screw.
(2) Apply the Oil 1/2 drop on the Axle.
(3) Go in gear the Mode Gear with Middle Gear by sticking on the Axle.
(4) Set the stopper Washer to the Axle.
(5) Assemble the Guide Bosses 2 points on the Lower part of Loading Motor Ass'y to accord with the Guide Holes "ⓒ" and "ⓓ" on the upper part of Mechanism Chassis and then set the Screw.
(6) After the Gear point ⓑ of Worm Gear Ass'y is to be toward below, stick it into the Gear ⓐ bottom of Loading Motor Ass'y, and fix the Shafe end tip is to be supported to the Loading Motor Bracket first tip, and then assemble the other side of Shaft by pushing from inside of Holder to outside.
(7) Apply the GREASE on the parts. (Fig. C)
(8) Apply the Oil 1/2 drop on the Axle.
(9) Go in gear with the Middle Gear and Worm Gear Ass'y Gear ⓒ together by sticking the Trans Gear Ass'y on the Axle.
(10) Set the Stopper Washer on the Axle.

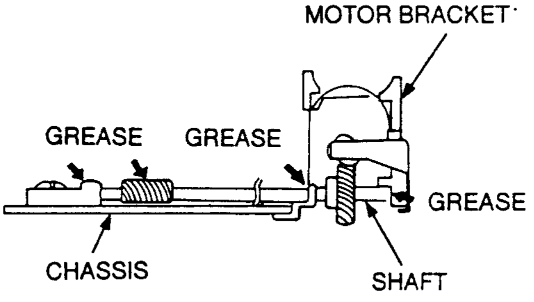
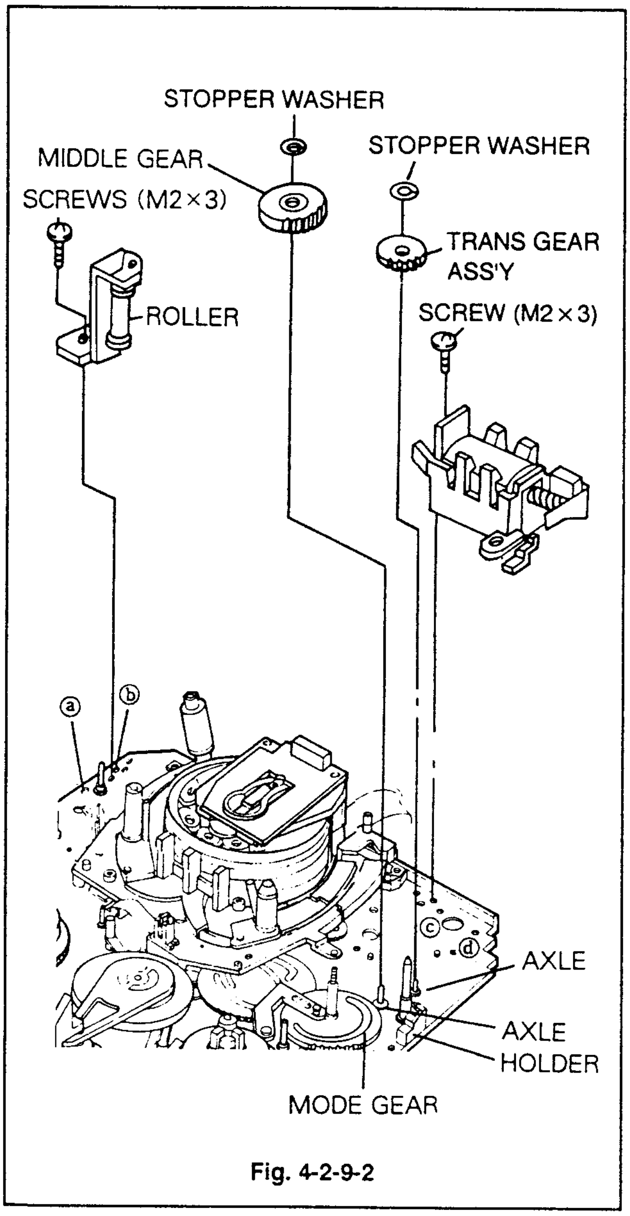


Fig. C

NOTES :

- Do not in gear the Gears by force during disassembly/reassembly of Gear, bited each other.
- During assembling the Bracket Ass'y, be careful the Roller surface is not to be dirted by an object material.
- Use the about 1.2kgf • cm Torque to fix the Screw.



STOPPER WASHER
MIDDLE GEAR
STOPPER WASHER
SCREWS (M2×3)
TRANS GEAR ASS'Y
ROLLER
SCREW (M2×3)
ⓐ
ⓑ
ⓒ
ⓓ
AXLE
AXLE HOLDER
MODE GEAR

Fig. 4-2-9-2

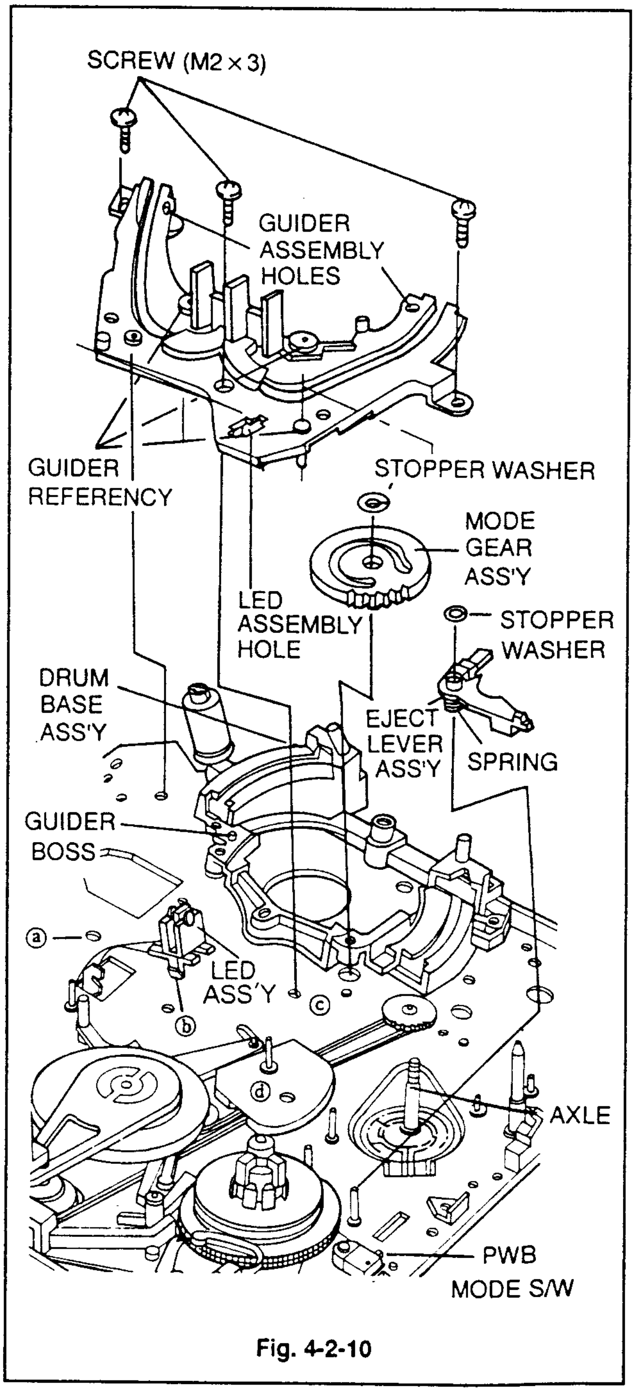
10. LOADING BASE ASS'Y, MODE GEAR ASS'Y AND EJECT LEVER ASS'Y

10-1. Disassembly (Fig. 4-2-10)

(1) Remove the LED Ass'y from the Led assembly Hole of Loading Base Ass'y.
(2) Remove 3 Screws and then remove the Loading Base Ass'y.
(3) Release the Stopper Washer and remove the Mode Gear Ass'y.
(4) Hook the Spring Arm point ⓐ of Eject Lever Ass'y by pushing to the front to the Spring Hanger of Eject Lever Ass'y.
(5) Remove the Stopper Washer and then remove the Eject Lever Ass'y.

NOTES :

- Be careful the Led Ass'y Hook is not to danage during disassembly the LED Ass'y from the Led assembly Hole of Loading Base Ass'y.



SCREW (M2×3)
GUIDER ASSEMBLY HOLES
GUIDER REFERENCY
STOPPER WASHER
MODE GEAR ASS'Y
LED ASSEMBLY HOLE
STOPPER WASHER
DRUM BASE ASS'Y
EJECT LEVER ASS'Y
SPRING
GUIDER BOSS
ⓐ
LED ASS'Y
ⓑ
ⓒ
ⓓ
AXLE
PWB MODE S/W

Fig. 4-2-10

10-2. Reassembly (Fig. 4-2-10)

(1) Fix the Guide Basic 4 pins of Loading Basse Ass'y to the refuge holes "ⓐ ", "ⓑ", "ⓒ" and "ⓓ" formed on the upper part of Mechanism Chassis. Stick the Pin into the Gear trace of outer Cam formed on the Cam Gear by pushing the Brake Lever Ass'y slightly in the direction of arrow, and then stick the Guide Basic 4 Pins of Loading Base Ass'y fast to Guide 2 Holes by pressing from above to below. (Fig. A)

(2) Set 3 Screws to "T1", "T2" and "T3" on the upper part of Mechanism Chassis.

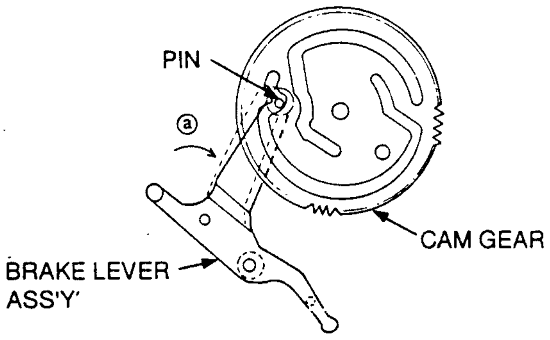


Fig. A
Brake Lever Ass'y and Cam Gear Assembly

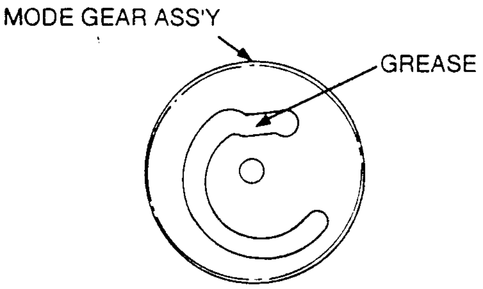


Fig. B

(3) Assemble the Eject Lever Ass'y on the Axle, and Set the Stopper Washer on it.

(4) Wipe the surface of PWB Mode S/W with the cotton stick with the cleanser.

(5) After the cleanser is dried completely, Apply the Grease to the point of contact evenly and thinly.

(6) Apply the Grease on the Mode Gear Ass'y Cam formative parts.

(7) Go in gear the Cam Gear with the Mode Gear Ass'y by sticking on the Axle. (Fig. C)

(Assembly Method)

Go in gear with together so the intaglioed arrow edge to accord on the line connected to the middle of Mode Gear Ass'y and the middle of Cam Gear.

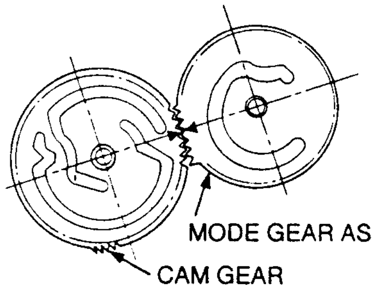


Fig. C

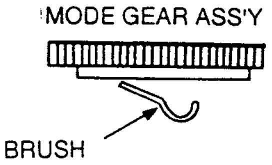


Fig. D

(8) Set the Stopper Washer on the Axle.

(9) Push the Spring Arm point ⓐ of Eject Lever Ass'y from the Spring hanger to below to be supported to the sidewall of CST S/W.

(10) Apply the Grease on the deviant lines of Loading Base Ass'y (Fig. 4-2-11).

(11) Stick the Led Ass'y into the Led Ass'y Hold of Loading Bass Ass'y.

NOTES :

- Use the about 1.2kgf • mm Torque to set 3 Screws.
- Do not force unreasonably, during disassembly and reassembly it may cause the transformation of Gear.
- Be careful so the Roller(S), (T) is not to be dirted by an object material.
- Take the Led Ass'y Hook and Loading Base Ass'y not to be transformed during assembling the Led Ass'y to the Led Ass'y Hole of Loading Base Ass'y.
- Be careful so the Brush on the Lower part is not to be transformed during handling the Mode Gear Ass'y (Fig. D).
- Do not gear in the Mode Gear Ass'y and Cam Gear by force during assembling, the Gear parts may get damaged.
- Take the Spring Arm ⓐ of Eject Lever Ass'y not to be transformed by force.

11. GEAR LOADING ASS'Y(S), (T), SLANT BASE ASS'Y(S), (T), CAM GEAR AND LEVER DRIVE ASS'Y

11-1. Disassembly (Fig. 4-2-11-1, 4-2-11-2)

(1) Turn the Loading Base Ass'y over, and remove the part ⓐ of stopper Plate from Pin "D" by raising and then remove the Stopper Plate by Pushing and raising to "A" direction (to above). (Fig. 4-2-11-1)

(2) Remove the Lever Drive Ass'y from Pin "D" on the Loading Base Sub Ass'y.

(3) Turn the Cam Gear to the "L"direction to stop the rotating. At this time the Slant Base Ass'y(S), (T) also move forward because the Loading Gear Ass'y(S), (T) is rotated (Fig. 4-2-11-3).

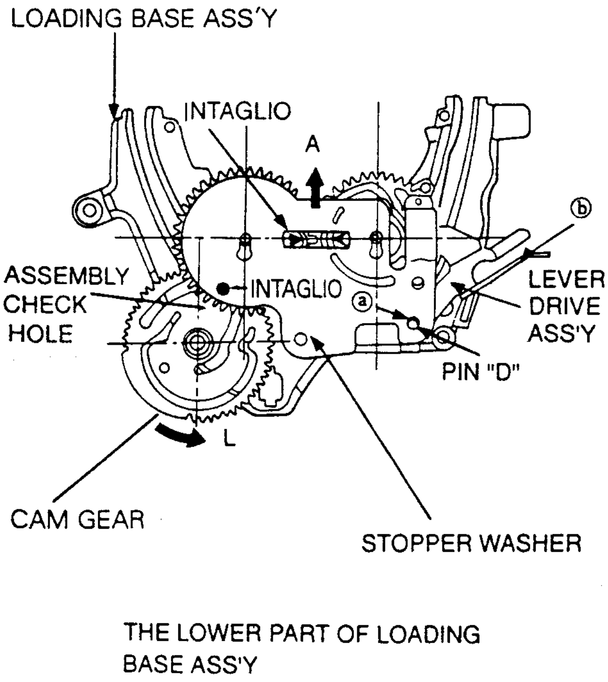
(4) Remove the Loading Gear Ass'y(S) and Slant Base Ass'y(S) from the pin "C" on the Loading Base Sub Ass'y.

(5) Remove the Stopper Washer of Loading Gear Ass'y and disassemble the Slant Base Ass'y(S).

(6) Remove the Loading Gear Ass'y(T) and and Slant Base Ass'y(T) from the pin "B" on the Loading Base Sub Ass'y.

(7) Remove the Stopper Washer of Loading Gear Ass'y(T) and disassemble the Slant Base Ass'y (T).

(8) Remove the Stopper Washer from the pin "A" on the Loading Base Sub Ass'y and disassemble the Cam Gear.


LOADING BASE ASS'Y
INTAGLIO
A
ⓑ
ASSEMBLY CHECK HOLE
INTAGLIO
ⓐ
LEVER DRIVE ASS'Y
PIN "D"
L
CAM GEAR
STOPPER WASHER

THE LOWER PART OF LOADING BASE ASS'Y

Fig. 4-2-11-1

11-2. Reassembly (Fig. 4-2-11-1, 4-2-11-2)

(1) Apply the Oil 1/2 drop on the pin "A" of Loading Base Sub Ass'y. (Fig. 4-2-11-2)

(2) Apply the Grease on the deviant lines of Cam Gear. (Fig. A)

(3) Stick the Cam Gear in the pin "A" of Loading Base Sub Ass'y adn then set the Stopper Washer.

(4) Stick the Slant Base Ass'y(T) and the set theStopper Washer.

(5) Assemble the Cam Gear and Loadilng Gear Ass'y by going in gear together.

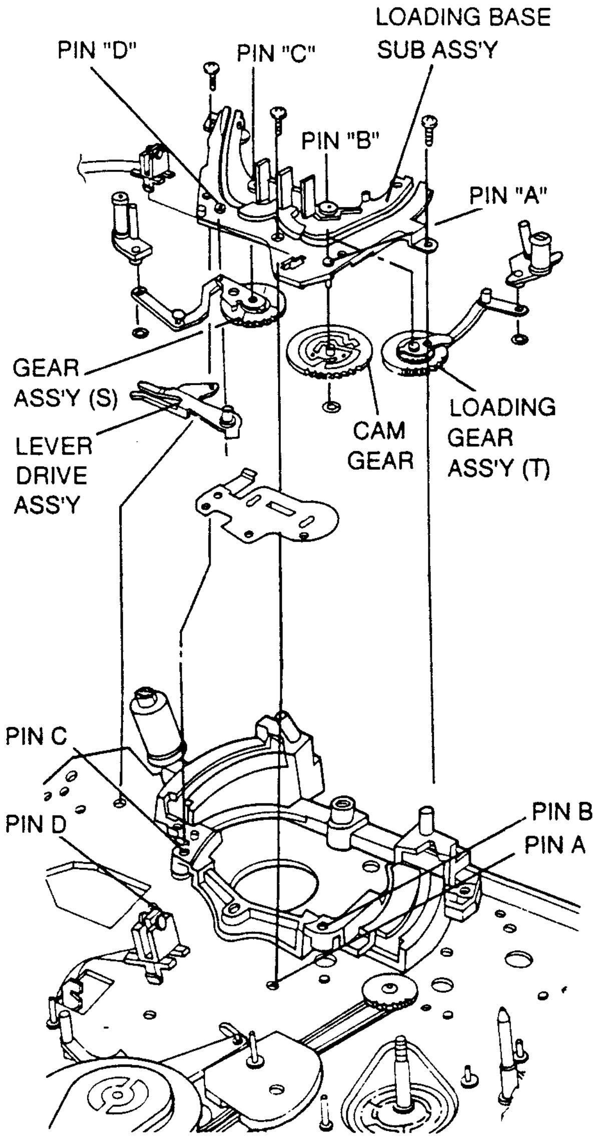

LOADING BASE SUB ASS'Y
PIN "D"
PIN "C"
PIN "B"
PIN "A"
GEAR ASS'Y (S)
LEVER DRIVE ASS'Y
CAM GEAR
LOADING GEAR ASS'Y (T)
PIN C
PIN D
PIN B
PIN A

Fig. 4-2-11-2

(Assembly Method)
Apply the Oil 1/2 drop to the Pin "B". Accord the "assembly basic Hole", on the part unformed the teeth pattern by turning the Cam Gear, with the Guider Hole "E" forned on the Loading Base Sub Ass'y.
Fix the Loading Gear Ass'y(T) in the Pin "B". Accord the Guider Hole "F" in the center of cam Gear and Loading Cam Gear.
In the state, fix the little Gear(A) Teeth in the Cam Gear by pushing the Loading Gear Ass'y(T) from the Upside to the lower. (Fig. 2-11-3). And Check the Guider Hole "G" of Loading Gear Ass'y(T) is placed in the straight line between Pin "B" and Pin "C".

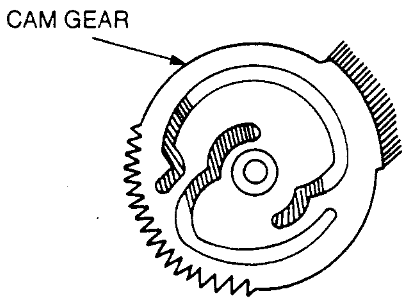


Fig. A

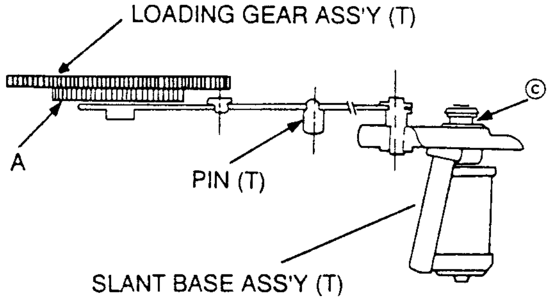

LOADING GEAR ASS'Y (T)
ⓒ
A
PIN (T)
SLANT BASE ASS'Y (T)

Fig. B

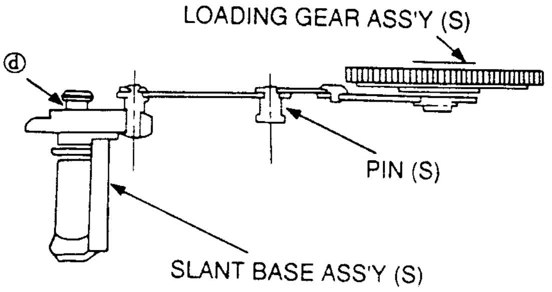

LOADING GEAR ASS'Y (S)
ⓓ
PIN (S)
SLANT BASE ASS'Y (S)

Fig. C

(6) Stick the Pin "T" head of Loading Gear Ass'y(T) in the Guide Way "A" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)
(7) Stick the Slant Base Ass'y(S) in the Lever Hold of Loading Gear Ass'y(S) and Set the Stopper Washer. (Fig. 4-2-11-2)
(8) Apply the Oil 1/2 drop in the Pin "C" of Loading Base Sub Ass'y. (Fig. 4-2-11-2). Go in gear the teeth of Loading Gear Ass'y(S) with the teeth of Loading Gear Ass'y(T).

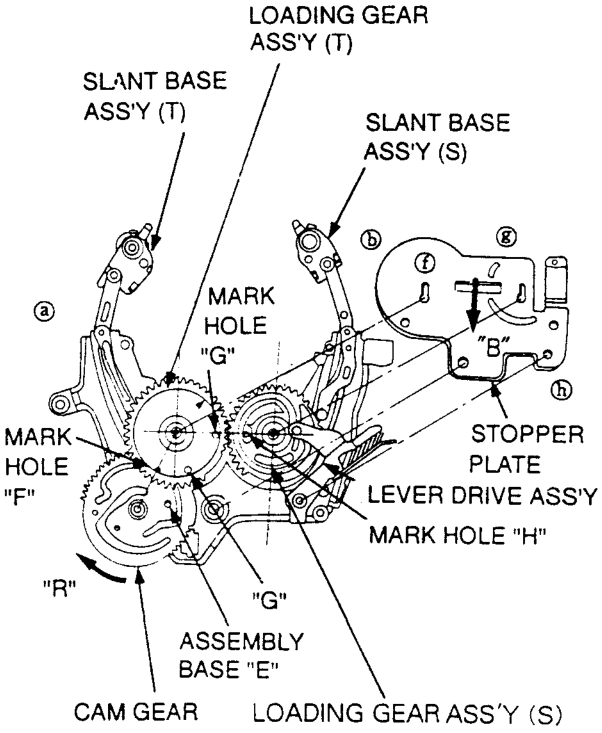

LOADING GEAR ASS'Y (T)
SLANT BASE ASS'Y (T)
SLANT BASE ASS'Y (S)
ⓑ
ⓖ
ⓕ
ⓐ
MARK HOLE "G"
"B"
ⓗ
MARK HOLE "F"
STOPPER PLATE
LEVER DRIVE ASS'Y
MARK HOLE "H"
"R"
"G"
ASSEMBLY BASE "E"
CAM GEAR
LOADING GEAR ASS'Y (S)

Fig. 4-2-11-3

(Assembly Method)
Fix the Loading Gear Ass'y(S) in the Pin "C" and check the Guide Hole "H" is placed in the straght line between Pin "B" and Pin "C", After Assembly, Pin "B", Guider Hole "G", Guider Hole "H" and Pin "C" are placed on the straight line. (Fig. 4-2-11-3)

(9) Stick the Pin(S) Head of Loading Gear Ass'y(S) in the Guide Way "B" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)
(10) Rotate the Cam Gear to the direction of "R" Stick the part "C" of Slant Base Ass'y(T) and part "D" of Slant Base Ass'y(S) in the Guide Way "A" and "B" of Loading Base Sub Ass'y and then rotate the Cam Gear to the direction of "R" until the rotaty is stopped.
(11) Apply the Grease on the deviant Lines of Cam trace formed on the Gear. (Fig. D)
(12) Apply the Oil 1/2 drop in the Pin "D" of Loading Base Sub Ass'y. (Fig. 4-2-11-3)
(13) During sticking the Lever Drive Ass'y in the Pin "D" of Loading Base Sub Ass'y, stick the Pin "L" of Lever Drive Ass'y in the inside of Cam trace on the Loading Gear(S). (Fig. D, part "E")
(14) Apply the Grease on the deviant Lines of Lever Drive Ass'y. (Fig. 4-2-11-3)
(15) Set the Stopper Plate
(16) Turn the Loading Base Ass'y over, and apply the Grease to the deviant lines of the upper part on the Guide Way.

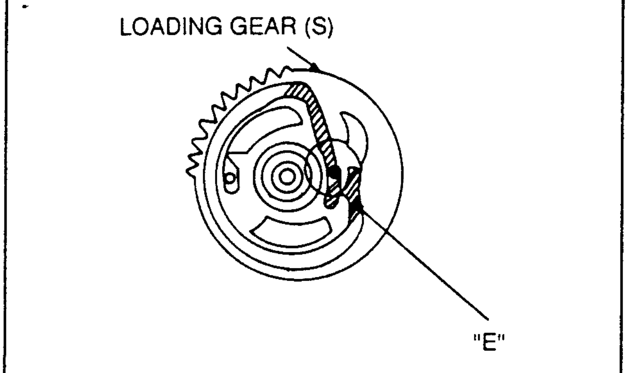


Fig. D

(CHECKING) (Fig. 4-2-11-1)

- Check the Vertical hem of Loading Gear Ass'y(T) negative mark "D" and Loading Gear Ass'y(S) positive mark " " are accorded with each other.
- Check the stopper Plate Guider Hole "I" and Loading Gear Ass'y(T) negative mark "G" are accorded with each other.
- During the checking, if the wrong result is found, adjust the steps above again.

NOTES :

- During the Gears assembly, be careful of the Teeth of Gears get demaged by force.
- Do not force them umreasonably to disassembly and assembly.
- During the Slant and Base Ass'y(C), (T) disassembly and assembly, be careful of the obstruction adhere to the Roller and Post.

12. DRUM BASE ASS'Y AND INERTIA ROLLER ASS'Y

12-1. Disassembly (Fig. 4-2-12) (Fig. A)

(1) Remove 3 Screws and ever remove Drum Base Ass'y.
(2) Remove the Nut.
(3) Remove the Slide Washer, Roller, Sleeve, Lower Flange and Spring.

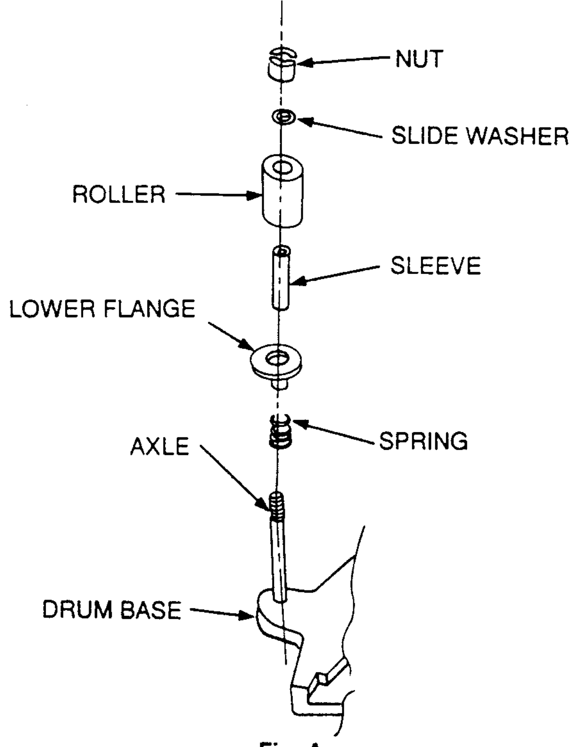


Fig. A

12-2. Reassembly (Fig. 4-2-12) (Fig. A)

(1) Install the Spring, Lower Flange, Sleeve, Roller and Slide Washer on the Axle of Drum Base.
(2) Fix the Axle by rotating the Nut four or six times.
(3) Stick the Guide Bosses 2 point of Drum Base Ass'y in the Boss refuge Holes on the upper part of the Mechanism Chassis from above to below.
(4) Set 3 Screws to fix the Drum Base Ass'y.

NOTES :

- Use the about 2kgf • cm Torque to set Screw.
- Be careful so the Roller surface is not to be dirted during disassembly and assembly.

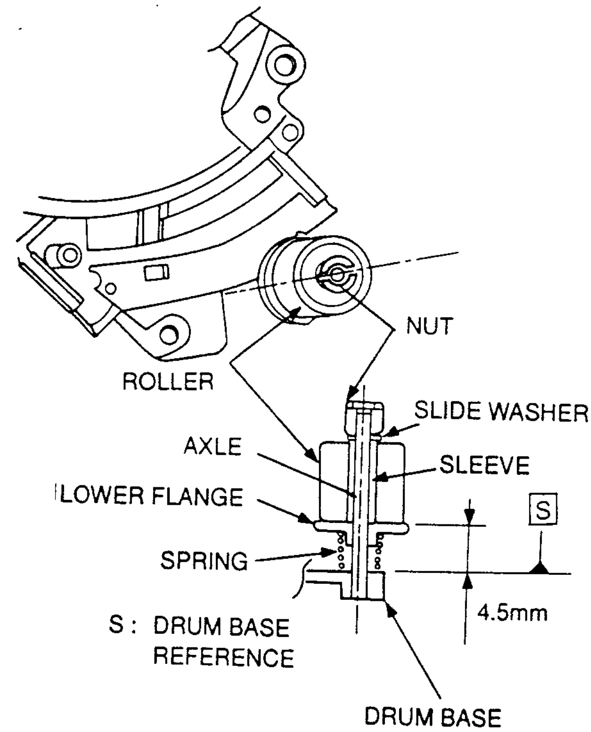

ROLLER
NUT
SLIDE WASHER
AXLE
SLEEVE
LOWER FLANGE
S
SPRING
4.5mm
S : DRUM BASE REFERENCE
DRUM BASE

Fig. B

12-3. Roller Height Adjustment (Fig. B)

(1) Adjust the height of Drum Base Lower Side and Lower Frange upper Side by rotating the Nut.

NOTE :

- Readjust the Tape Path after adjustment.

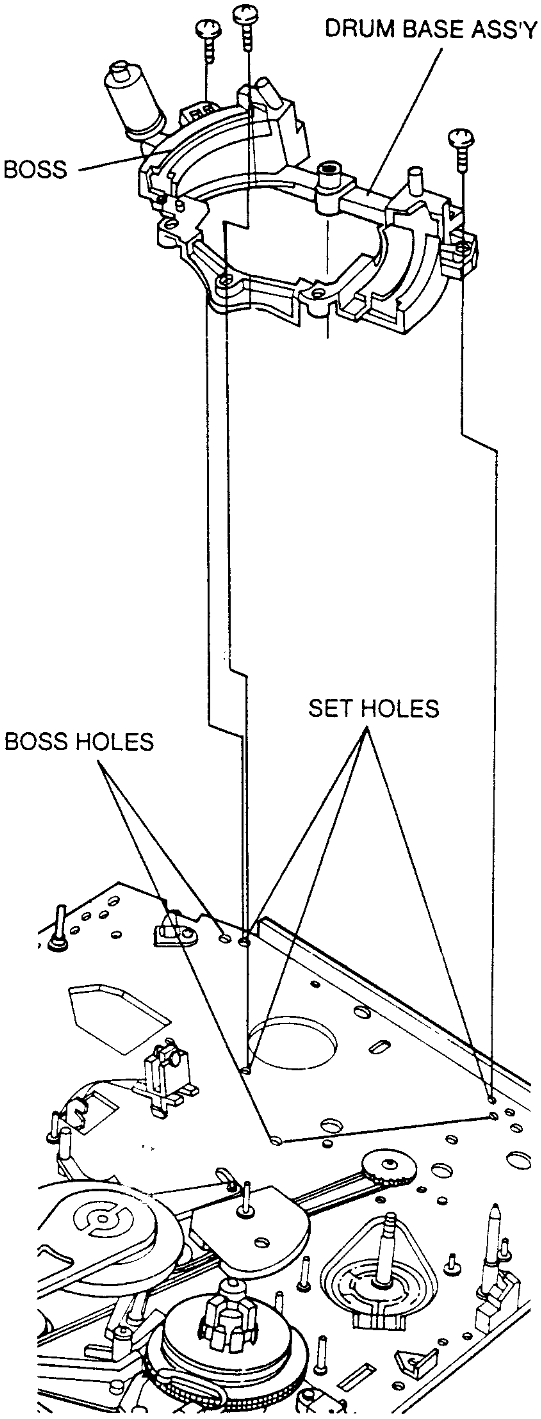

DRUM BASE ASS'Y
BOSS
SET HOLES
BOSS HOLES

Fig. 4-2-12

13. BRAKE CLUTCH, REEL ASS'Y(S), REEL ASS'Y(T), SENSOR BRACKET, IDLER GEAR ASS'Y AND CAM SPACER

13-1. Disassembly (Fig. 4-2-13)

(1) Remove the Stopper Washer and remove the Brake Clutch.
(2) Remove the Stopper Washer and remove the Slide Washer after disassembly the Reel Ass'y (T).
(3) Remove the Reel Ass'y(S) and then remove the Slide Washer.
(4) Remove the Screw ⓐ and Sensor Bracket.
(5) Disassemble the Idler Gear Ass'y and remove Slide Washer.
(6) Remove the Cam spacer.

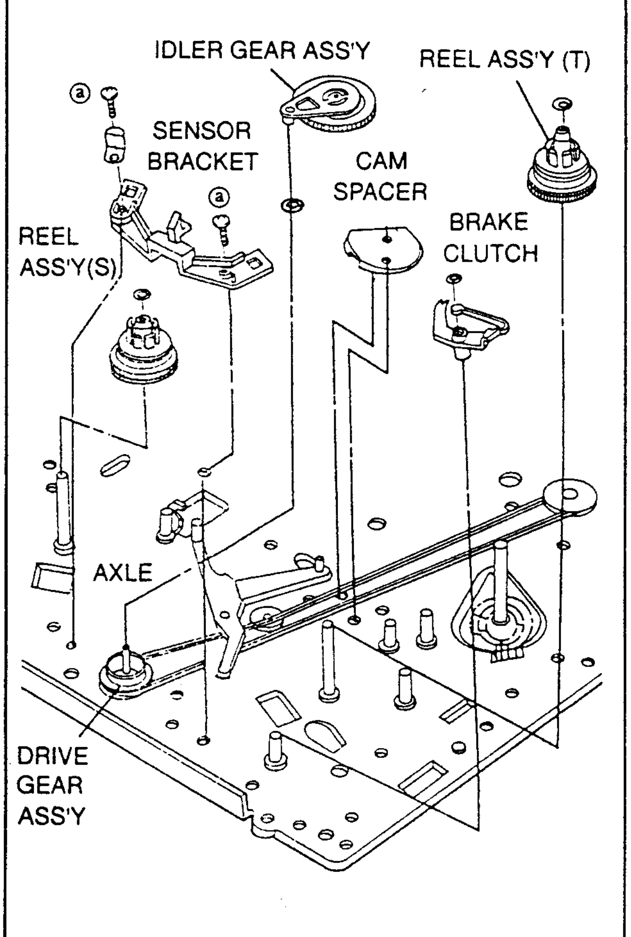


Fig. 4-2-13

13-2. Reassembly (Fig. 4-2-13)

(1) Stick the Guide Bosses 2 point of Cam Spacer in the Guider Bosses 2 point on the upper part of the Mechanism Chassis in the bottom of the Chassis by pushing from above to helow.
(2) Stick the Slide Washer on the Axle and then apply the Oil 1/2 drop and assemble the Idler Gear Ass'y on the Axle. (FIg. A).
During assembling the Idler Gear Ass'y, go in gear the idler Gear teeth with Gear teeth on the upper part of Drive Gear Ass'y.
(3) Stick the Guide Boss 2 point of Sensor Bracket in the Guide Holes 2 point on the upper part of Mechanism Chassis and set right part with Screw.
(4) Push the Spring Arm ⓐ of Brake Reel Ass'y to be supported to the side wall of Sensor Bracket.
(5) Stick the Slide Washer on the Axle and apply the Oil 1/2 drop to the Axle and assemble the Reel Ass'y (S). (Fig. B)
(6) Stick the Slide Washer on the Axle and apply the Oil 1/2 drop to the Axle and assemble the Reel Ass'y(T). (Fig. B)
⇒ Assemble the Reel Ass'y(T) carefully and go in gear the Brake Reel Ass'y teeth with Reel Ass'y (T) teeth by rotating the Lever Brake Ass'y to the direction of "R".
(7) Set the Stopper Washer on the Axle.
(8) Set the Brake Clutch and then the Stopper Washer on the Axle.
⇒ Assemble the bow of Brake Clutch to be Supported to the Side wall of Reel Ass'y(T).

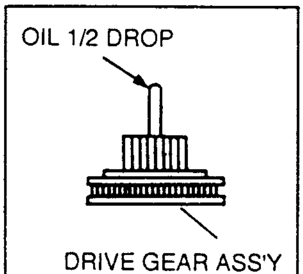


Fig. A

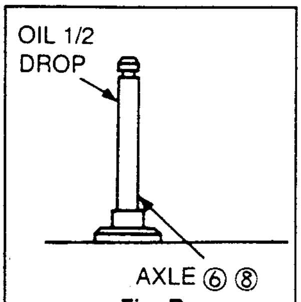


Fig. B

NOTES :

- Be careful so the bow of Brake Clutch is not to be transformed.
- Do not enguage with the Gears by forces, because the Idler Gear is easy to get demaged during the Idler Gear Ass'y.
- Be careful so the teeth is not to get demaged during assembling the Brake Reel Ass'y and Reel Ass'y(T).
- Do not force the Spring Arm unreafonably during the disassembly and reassembly of Spring Arm on the Brake Reel Ass'y, it may cause the transformation of Spring.
- Use the about 1.2kgf • cm Torque to set Screw.

14. BRAKE REEL ASS'Y, LEVER BRAKE ASS'Y, TIMING BELT, IDLER BELT, DRIVE GEAR ASS'Y, CONVERSION GEAR ASS'Y

14-1. Disassembly (Fig. 4-2-14)

(1) Remove the Stopper Washer and remove the Brake Reel Ass'y.
(2) Remove the Timing Belt. Release the Timing Belt stuck in the Idler Belt and then remove the Timing Belt from the Drive Gear Ass'y.
(3) Loosen the Stopper Washer, and remove the Idler Belt and Slide Washer.
(4) Remove the Drive Gear Ass'y and Slide Washer on the Axle.
(5) Loosen the Stopper Washer, and remove the Conversion Gear Ass'y and Slide Washer.

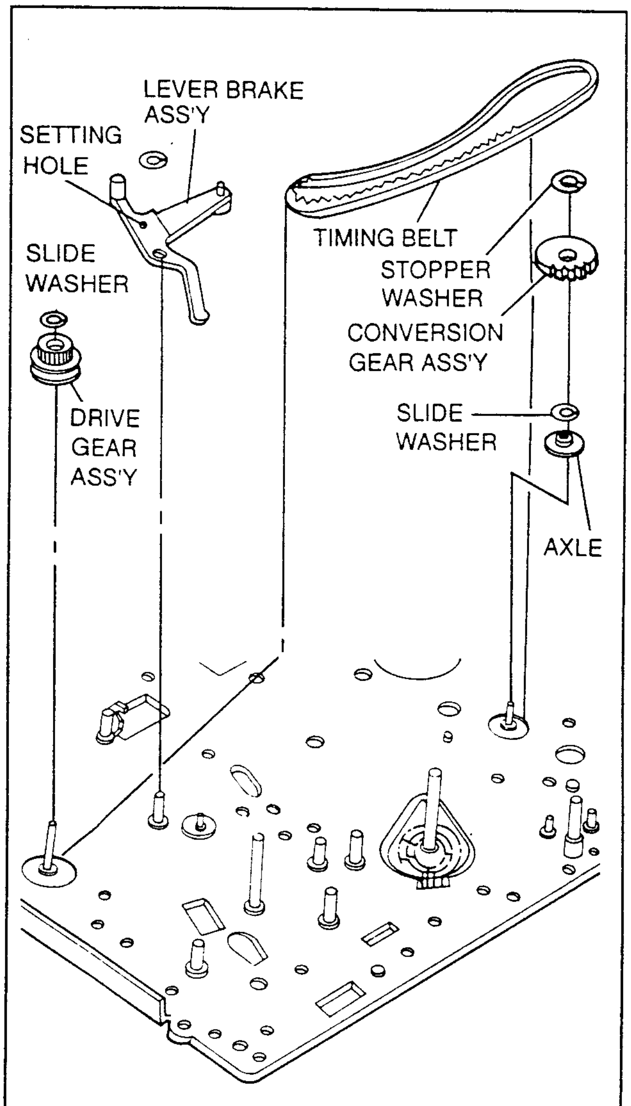


Fig. 4-2-14

14-2. Reaseembly (Fig. 4-2-14)

(1) Stick the slide washer on the Axle and apply the oil 1/2 drop on the Axle. (Fig A)
(2) Assemble the conversion Gear Ass'y on the Axle and set the stop washer.
(3) Assemble the slide wahser on the Axle and apply the oil 1/2 drop on the Axle. (Fig B)
(4) Assemble the Grive Gear Ass'y on the Axle.
(5) Stick the Idler Belt on the Axle and apply the oil 1/2 drop on the Axle.
(6) Assemble the Idler Belt on the Axle and set the stopper wahser.
(7) Assemble the Timing Belt. Hook the Timing Belt on the lower Gear of Conversion Gear Ass'y and assemble the vertical port(no teeth part) on the lower teeth part of Drive Gear Ass'y by hooking on the vertical part of IdlerBelt. (Fig. 4-2-13)
Apply the oil on the teeth of Timing Belt.
(8) Assemble the Lever Brake Ass'y on the Axle and set the stopper washer, and then fit the Guider Hole to the cognition hole by rotating the Lever Brake Ass'y.
(9) Stick the Lever Brake, on the Axle and set the Stopper Washer, At this time, assemble so the part "B" on the Lever Brake Ass'y is to be inserted in the Mouth part "A" on the Brake Reel Ass'y. (Fig. 4-2-13)

NOTE :
Do not force to be transformed unreasonably during the Timing Belt disassembly/assemly.

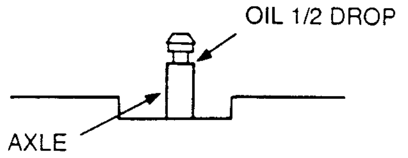


Fig. A

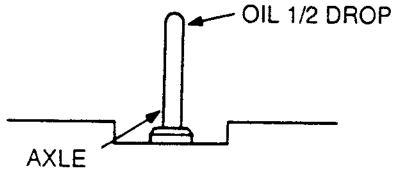


Fig. B

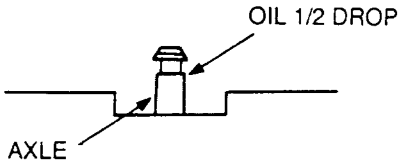


Fig. C

15. DRUM ASS'Y DISASSEMBLY

15-1. Disassembly

(1) Set the Unit to the ULC Mode (Unloading mode).
(2) Remove the Flexible Board and connector.
(3) Loosen the 3 screws on the Lower part of Chassis and remove the Drum Ass'y from the Drum Base Ass'y.

15-2. Reassembly

(1) Fit 2 Guider Bosses formed on the Drum Base Ass'y with the Guider refuge Holde on the Lower part of Drum Ass'y, and then set the Drum Ass'y with 3 screws through the Guide Hole of Drum Base Ass'y on the Lower Part of chassis.
(2) Link the connector to the Flexible Board.

NOTES :

- During the Flexible Board and connector disassembly/assembly, be careful to the Line Cutting or transformation.
- Do not touch the Head Tip.
- Readjust the Tape path of ter assembly.
- Use the about 2kgf • cm Torgue to set screw.

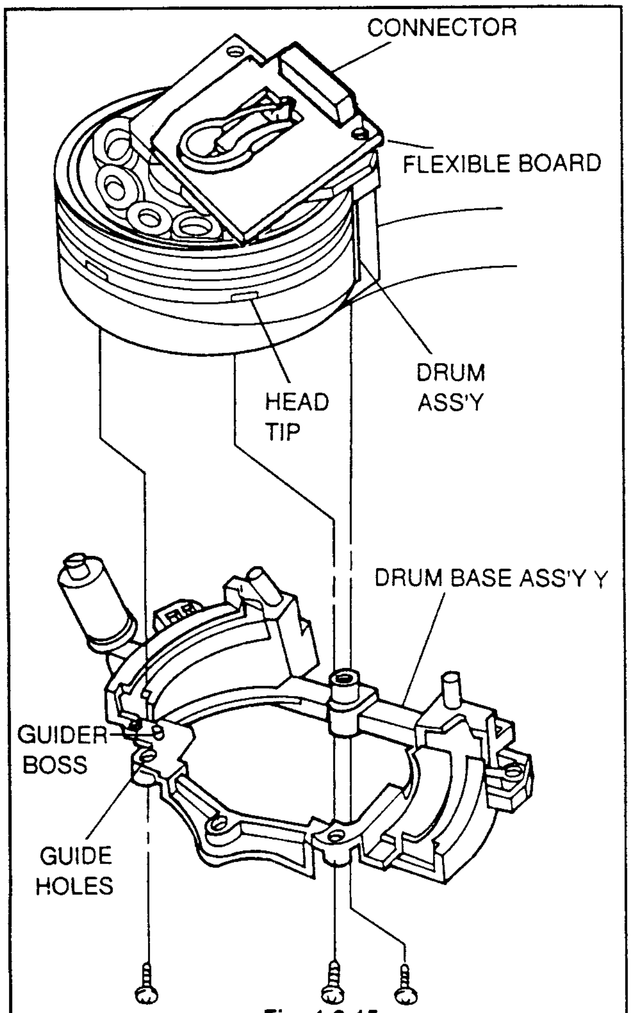

CONNECTOR
FLEXIBLE BOARD
DRUM
ASS'Y
HEAD
TIP
DRUM BASE ASS'Y Y
GUIDER
BOSS
GUIDE
HOLES

Fig. 4-2-15

16. DRUM DISASSEMBLY

16-1. Disassembly

(1) Loosen 2Screws on the upper part of Drum Ass'y and remove the Motor Ass'y stator.
(2) Remove the lead from the soldering part on the Lower part of Drum Ass'y, and remove the Plate Signal by loosening 1 Screw.
(3) Remove the lead from the PWB Ass'y signal soldering part on the Lower part of Drum Ass'y and remove PWB Ass'y signal.

16-2. Reassembly

(1) Assemble the Drum to fit the PWB Ass'y signal Hole and the Drum Sub Ass'y pin properly, and solder on the soldering part of PWB Ass'y signal.
(2) Assemble the Plate Signal Ground on the Drum Sub Ass'y with 1 screw, an then Solder on the soldery part of Plate signal Ground.
(3) Assemble the Motor Ass'y Stator in the Bracket Stator Hole with 2 screws on the upper part of Drum Sub Ass'y.

NOTES :

- During the parts assembly, do not scratch on the surface of Drum.
- Be careful so the Video Head is not to be damaged.
- Solder carefully after assembling the PWB Ass'y Signal.
- Use the about 2kgf • cm Torgue to set screw.

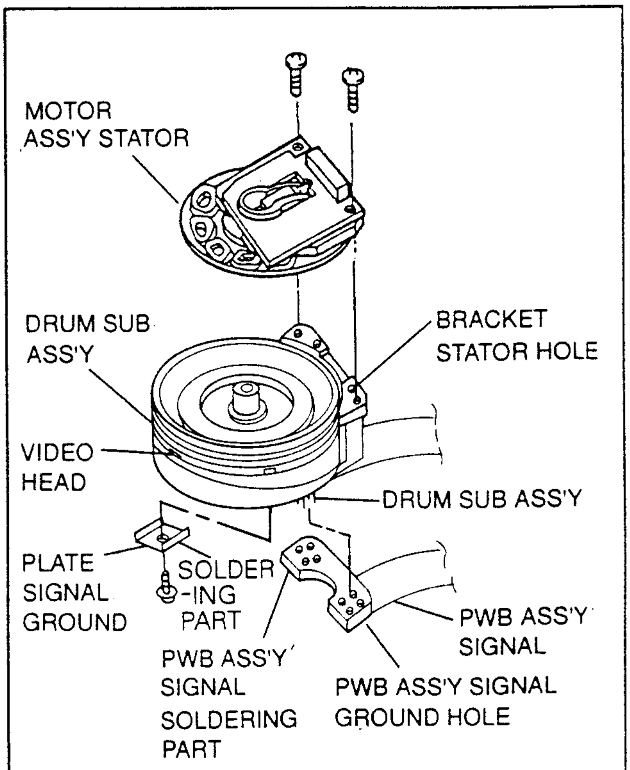

MOTOR
ASS'Y STATOR
DRUM SUB
ASS'Y
BRACKET
STATOR HOLE
VIDEO
HEAD
DRUM SUB ASS'Y
PLATE
SIGNAL
GROUND
SOLDER
-ING
PART
PWB ASS'Y
SIGNAL
PWB ASS'Y
SIGNAL
SOLDERING
PART
PWB ASS'Y SIGNAL
GROUND HOLE

Fig. 4-2-16

17. PCB ASS'Y DECK

17-1. Disasembly

(1) Remove 1 screw (4) and 1 screws (5) on the upper parts of chassis.
(2) Remove the Holder PRE-AMP 8 mm, BRACKET DECK 8mm after release, screw (6) and screw (7).
(3) Remove 3 screw (8) and remove the solder of Mode switch, LED.
(4) Remove the PCB ASS'Y DECK JUNTION.

17-2. Reassembly

Perform the reassembly to the reverse order of assembly above.

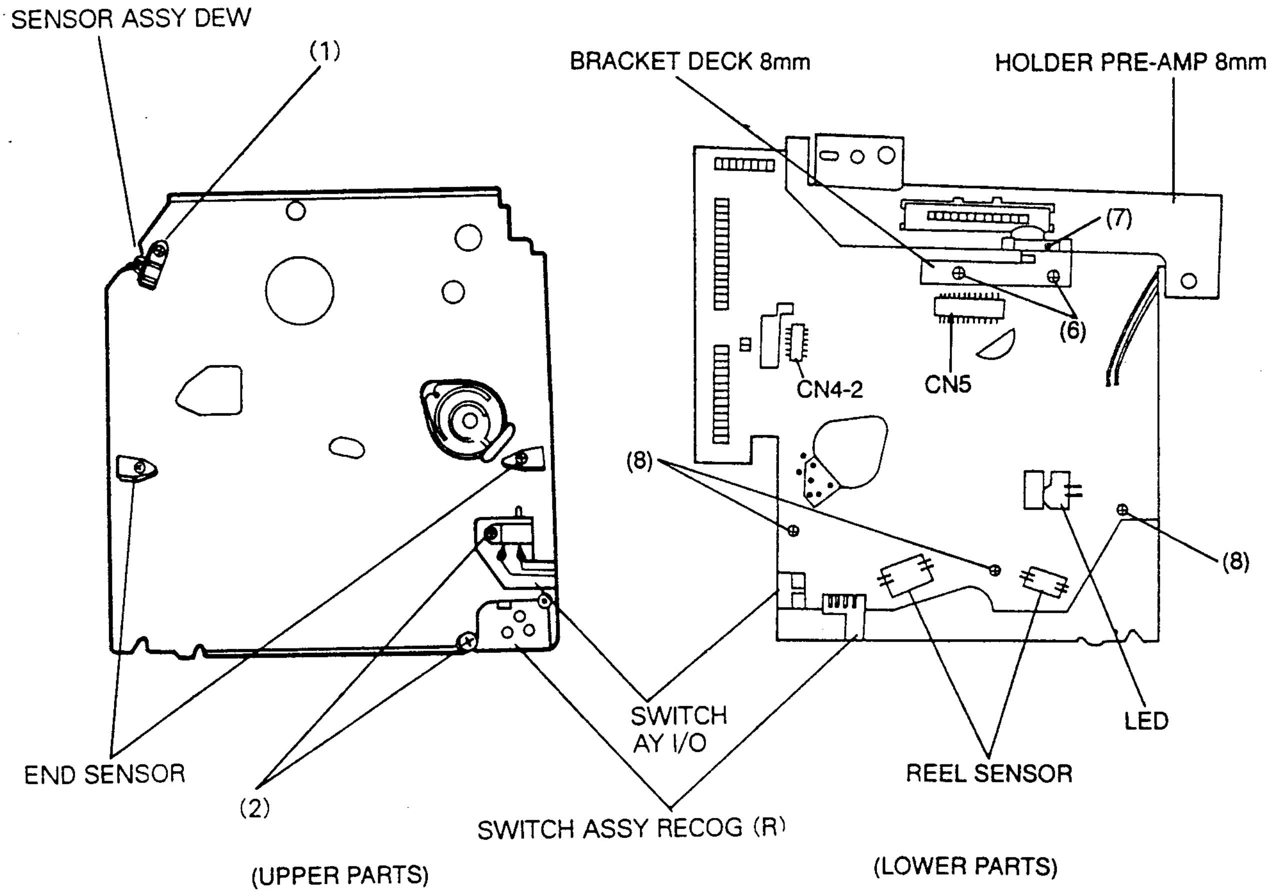

SENSOR ASSY DEW
(1)
BRACKET DECK 8mm
HOLDER PRE-AMP 8mm
(7)
(6)
CN4-2
CN5
(8)
(8)
SWITCH AY I/O
LED
END SENSOR
REEL SENSOR
(2)
SWITCH ASSY RECOG (R)
(UPPER PARTS)
(LOWER PARTS)

Fig. 4-2-17

DECK MECHANISM ADJUSTMENT

1. DECK LOADING SYSTEM LAY-OUT

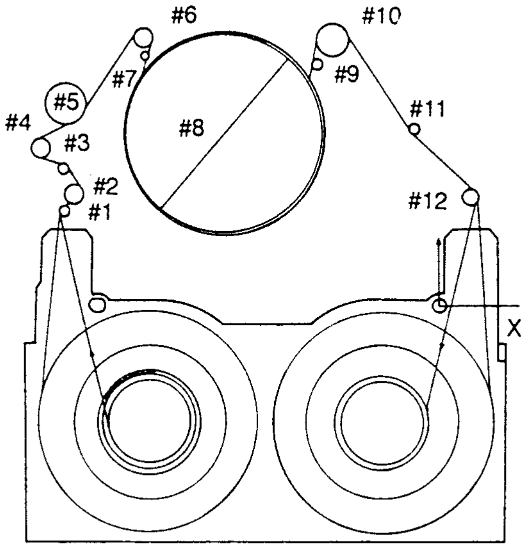

#6
#10
#7
#9
#5
#4
#3
#8
#11
#2
#1
#12
X

Fig. 4-3-1

#1 : TENSION POST (Ø2)

#2 : GUIDE ROLLER (N) (Ø4)

#3 : SLANT POST (Ø2)

#4 : GUIDE ROLLER (Ø4)

#5 : INERTIA ROLLER (=P1) (Ø8)

#6 : GUIDE ROLLER (S) (=P2) (Ø4)

#7 : SLANT POST (S) (Ø2)

#8 : DRUM (Ø40)

#9 : SLANT POST (T) (Ø2)

#10 : GUIDE ROLLER (T) (=P3) (Ø6)

#11 : CAPSTAN (Ø1.995)

#12 : TAKE UP GUIDE (=P4) (Ø3)

2. PREPARATIONS

① Cleaning water.
② Chanois cloth.
③ Cotton stick
④ Dental mirror.
⑤ Torgue CST Tape, Alignment Tape and PLAY/RECORDING Tape.
⑥ Hexagonal Wrench(0.89mm) or L-Wrench.
⑦ Small(-) Driver⇒P1, P4 Adjustment.
⑧ Loading adjustment stick⇒P2, P3, P4 adjustment.
⑨ Circuit jig for Deck adjustment.

3. LOADING POST FIRST HEIGHT ADJUSTMENT

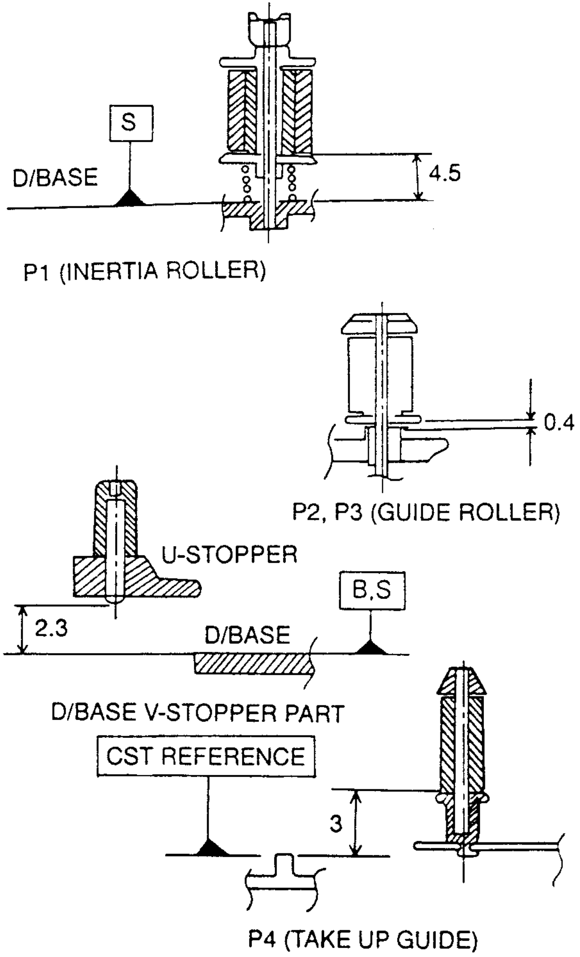

S
D/BASE
4.5
P1 (INERTIA ROLLER)
0.4
P2, P3 (GUIDE ROLLER)
U-STOPPER
B,S
2.3
D/BASE
D/BASE V-STOPPER PART
CST REFERENCE
3
P4 (TAKE UP GUIDE)

Fig. 4-3-2

4. TENTION ARM POSITION AND BACK TENTION ADJUSTMENT

4-1. Tension Arm position Adjustment

(1) Set the Deck mechanism to the Ope-Mode in No Tape state ⇒using the Circuit Fixture.

(2) Check the gab between Φ3 Boss of Arm Slant Roller and Cap of Arm Tension is 0.5~1.0 mm. If the gab is over the range, adjust as follows.

(3) Remove the screw on the Bracket fixing the Band Ass'y.

(4) Set the Bracket to the desired position by pushing to the direction of A or B and then set the screw.

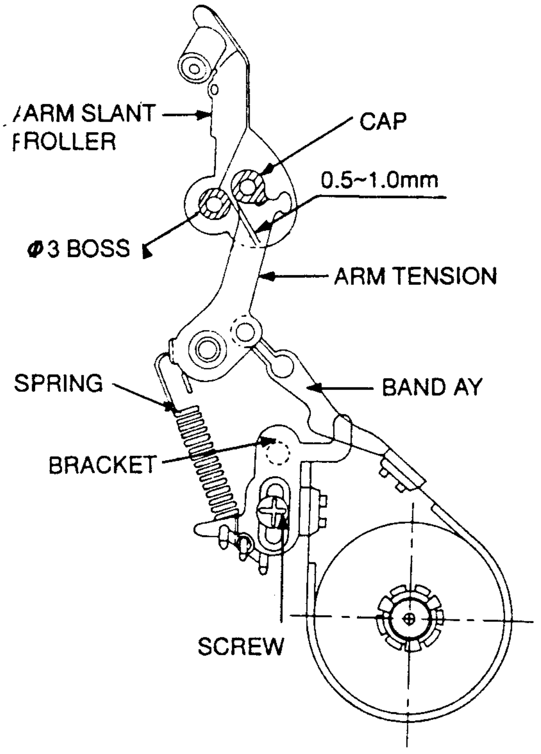


Fig. 4-3-3

4-2. Back Tension Adjustment

(1) After step 4-1 Adjustment, insert the Torgue CST Tape in the Unit and set to the Ope-Mode.

(2) Check the Back Tension Torgue of Supply side is in 6.5±2 (gf-cm).

(3) If the measuring value is more than the range, hook the spring of Bracket to (c), and if the value is less than hook to (D).

(4) Check the Back Tension is in the range by performing the Step 1) and 2) repeatedly.

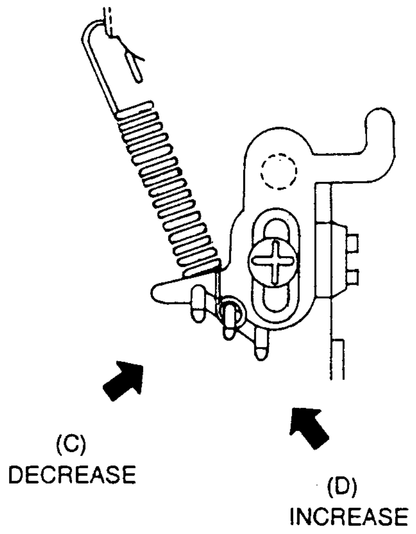


Fig. 4-3-4

1-5. REEL TORQUE CHECK

Inset the Torque CST Tape in the unit and check the spec as follows;

MODE	UNIT	SPEC	REMARKS
OPC CUE	gr · cm	12.5±4	At T/up Reel
REVERSE		35±6	At Supply Reel
REVIEW		12.5±4	At T/up Reel

6. TAPE PATH ADJUSTMENT

The 8mm Video can control the Tape speed instantaneously using the pilot signal, and adjusst very correctly using the ATF(Automatic Track Finding) method, so the adjustment by Tracking control knob is not need. But in case of ATF method, the Tape Path adjustment is difficult. That is, the perfect adjustment is difficult through the ATF method, because it compensates the Head Tracking Error to extent. Therefore, select the Track shift Mode for is possible and the Tracking control is easy. NOTE for P4 Guide (# 12) .

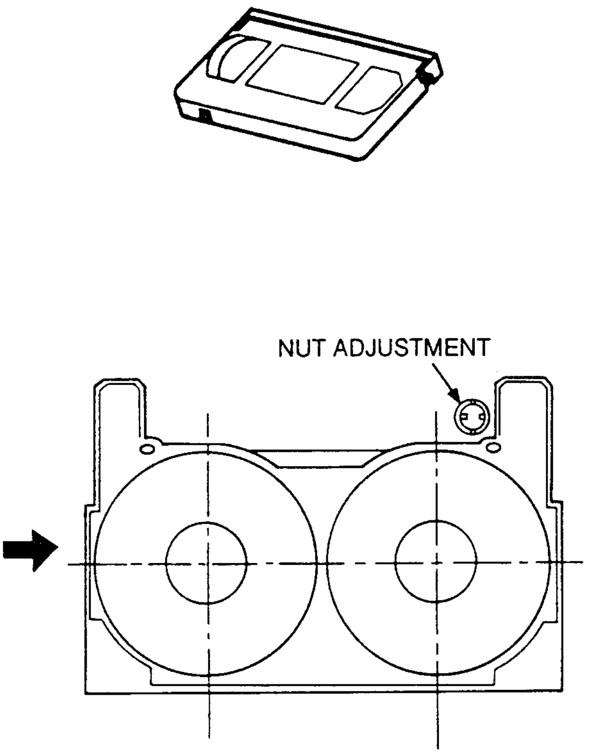


Fig. 4-3-5

6-1. Adjustment preparation

(1) Wipe the Tape path. (Tape Guides, Drum, Capstan Shaft, Pinch Rollor)
(2) Set the oiscilloscope for the Waveform Output.
(3) Play Back the alignment Tape for Tracking control.
(4) Chck the RF Waveform of Oscilloscope in the Entrance/Exit is flat Otherwise, adjust as follows;

• WAVEFORM

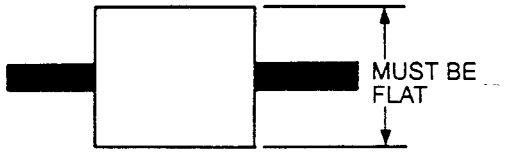


Fig. 4-3-6

6-2. Tracking Control

(1) Playback the Aligment Tape for Tacking contrl.
(2) Using the Running Control stick, rotate the P2-Guide so the waveform of entrance side is to be flatted.
(3) Using the Running control stick, ortate the P3-Guide so the waveform of exit side is to be flatted.

6-3. Tracking Fine Adjustment

(1) Playback the Alignment Tape for Tracking control and set the unit to the Track shift mode.
(2) Check the waveform is flat. Otherwise, roate the P2-Guide and P3-Guide so it is to be flatted.
(3) Set the Lock screw of P2 side using the Hexaponal Wrench 4 L-Wrench, etc. At this time, check the entrance of waveform is not change.
(4) Set the Lock Screw in the P3 side using the hexaponal Wrench 4 L-Wrench, etc. At this time, check the exit side of waveform is not changed.

• WAVEFORM

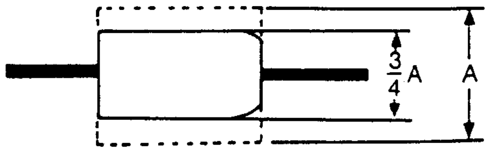


Fig. 4-3-7

6-4. P1-Guide (Inertia Roller) Adjustment

(1) Playback the P6-120MP Tape, and then set the unit to REV Mode.

(2) Check the distortion is occurred in the Lower Flange of P1-Guide. If it appears, bring the Cap of P1-Guide a lower by rotating it to the clockwise with the driver until the tape is flatted.

(3) Playback the Alignment tape for the Tracking control.

(4) Perform the Tracking Control and Tracking Fine Control.

(5) In the Track Shift state, playback the tape again after CUE/REV. At this time, check the RF Waveform is stabled horizontality in 2secs.

(6) If not, rotate the cap of P1-Guide to an angle of 90 degrees of counter-clockwise and then perform step 5 again.

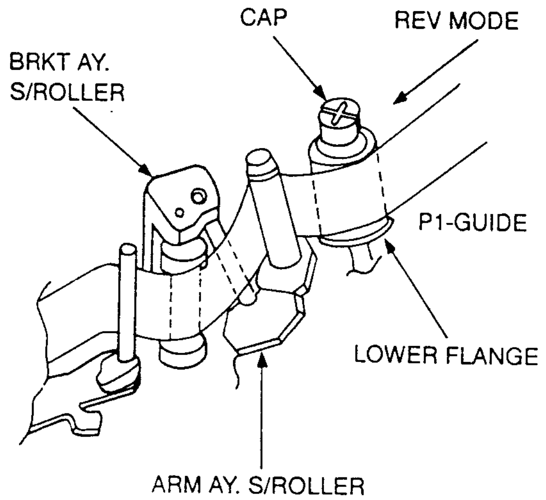


Fig. 4-3-8

NOTES :

① Repeat Step(5),(6) until the normal waveform ranged is become. At this time, if the RF waveform is changed, perform the Track Fine adjustment of Entrance side and then repeat step(5) again.

② Druing FF/REW Mode, check the Curl or Tape Jam are occurred on the # 4 Guide Roller Upper/Lower Flange of Bracket AY, S/Roller.

• WAVEFORM

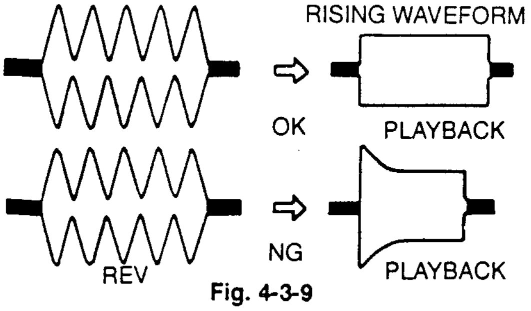


Fig. 4-3-9

6-5. P4-Guide(T/Up Guide) Adjustment

(1) Playback the Alignment Tape for Tracking control and set the unit to the REV-Mode.

(2) Check the Tape transformation is not occurred between the P3-Guide and Capstan Shaft. If it occurrs, rotate the P4-Guide Height Adjustment Cap until the Tape transformation is ridded.

(3) Set the unit to the playback Mode, and then check the Tape transformation is not occurred between the Capstan shaft and P4-Guide(within 0.5mm) If the Tape transformation is more than 0.4mm, adjust the P4-Guide Height unil it is become within 0.5mm.

NOTES :

- When the unit is set to the REV*Mode. it is good adjustment that the transformation between P3-Guide and Capstan Shaft is appeard within 0. 3mm.
- The Upper/Lower Tape Tension distribution in the P2,P3-Guide must be as follows;

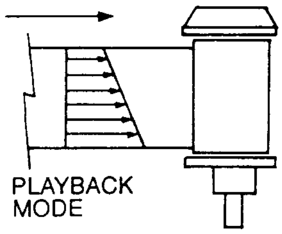


Fig. 4-3-10

6-6. CUE/REV Waveform check

(1) Playback the Alignment Tape for Tracking control and then set the unit to the REV Mode. Check the top of each waveform is sustained with the regular width of 5 or more than 5. Otherwise, perform Item 6-3.

(2) Set the unit to the CUE-Mode. Check otherwise, perform Item 6-3.

• WAVEFORM

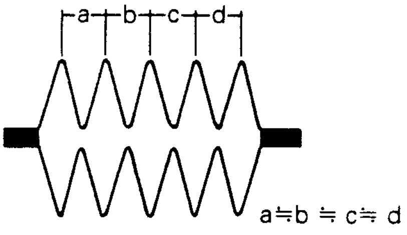


Fig. 4-3-11

6-7. Check after Adjustment

(1) Tracking Check

1) Check the width of RF Wavefrom is reduced to about 3/4 when do the unit set to the Track Shift position.

• WAVEFORM

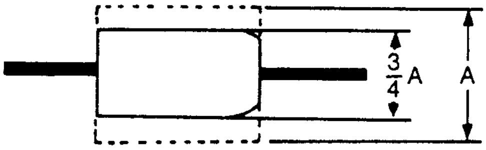


Fig. 4-3-12

2) Check the Minimum width (Emin) is the 65% of Maximum Width (Emax) or more than 65%.

• WAVEFORM

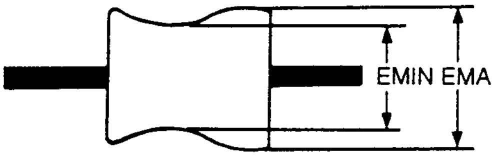


Fig. 4-3-13

3) Check the Waveform is not changed greatly.

(2) Rising Check

1) Playback an Alignment Tape for Tracking Control.

• WAVEFORM

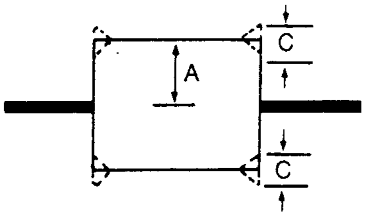


Fig. 4-3-14

2) Release the Tracking Shift State.
3) Unload the tape and load again.
4) Set the Unit to the PLAY mode and check the RF Waveform is stabilized within 2 Secs, horizontally, Also, check the tape is distorted around the Pinch Roller.
5) Set the Unit to the CUE/REV and FF/REW modes and then playing back again, check the RF Waveform is stabilized within 2 Secs, horizontally, Also, check the tape is distorted around the Pinch Roller.
6) Check the process from 3) to 5) repeatedly.

(3) TAPE PATH Adjustment

1) Playback the P_6-120MP (NTSC) or P_5-90MP (PAL) Cassette Tape.
   Check the Tape gets on or the Tape folded state is within 0.3mm in the following flanges;
   ① Upper and Lower Flange of #2 Guide.
   ② Lower Flange of #5 P1-Guide
   ③ Upper Flange of #6 P2-Guide
   ④ Upper Flange of #10 P3-Guide
   ⑤ Upper and Lower Flange of #12 P4-Guide
2) During Playback Mode, press the FF key to set CUE Mode or press the REW key to set REV Mode, and at this time, check the Tape gets on or the Tape folded state is within 0. 3mm in the following flages.

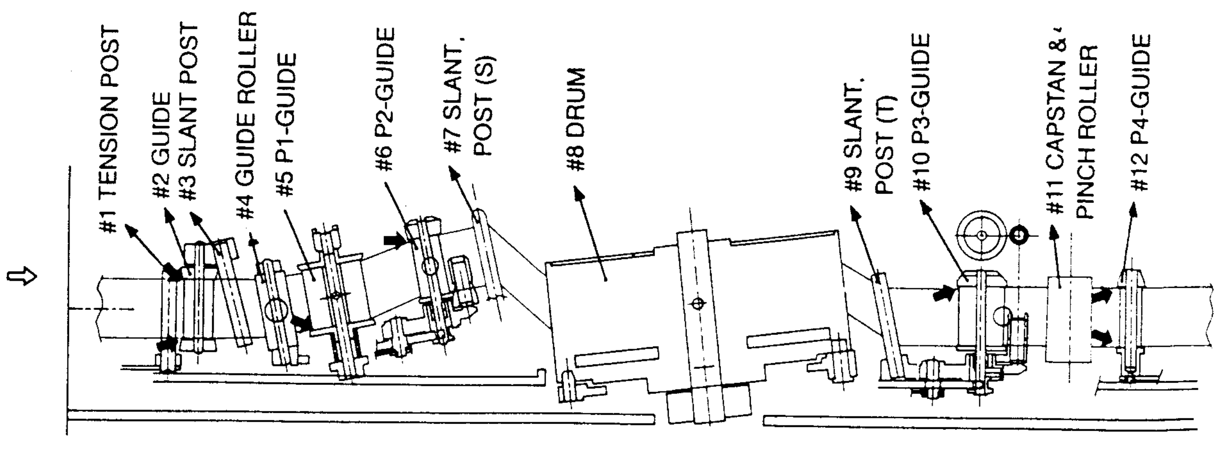
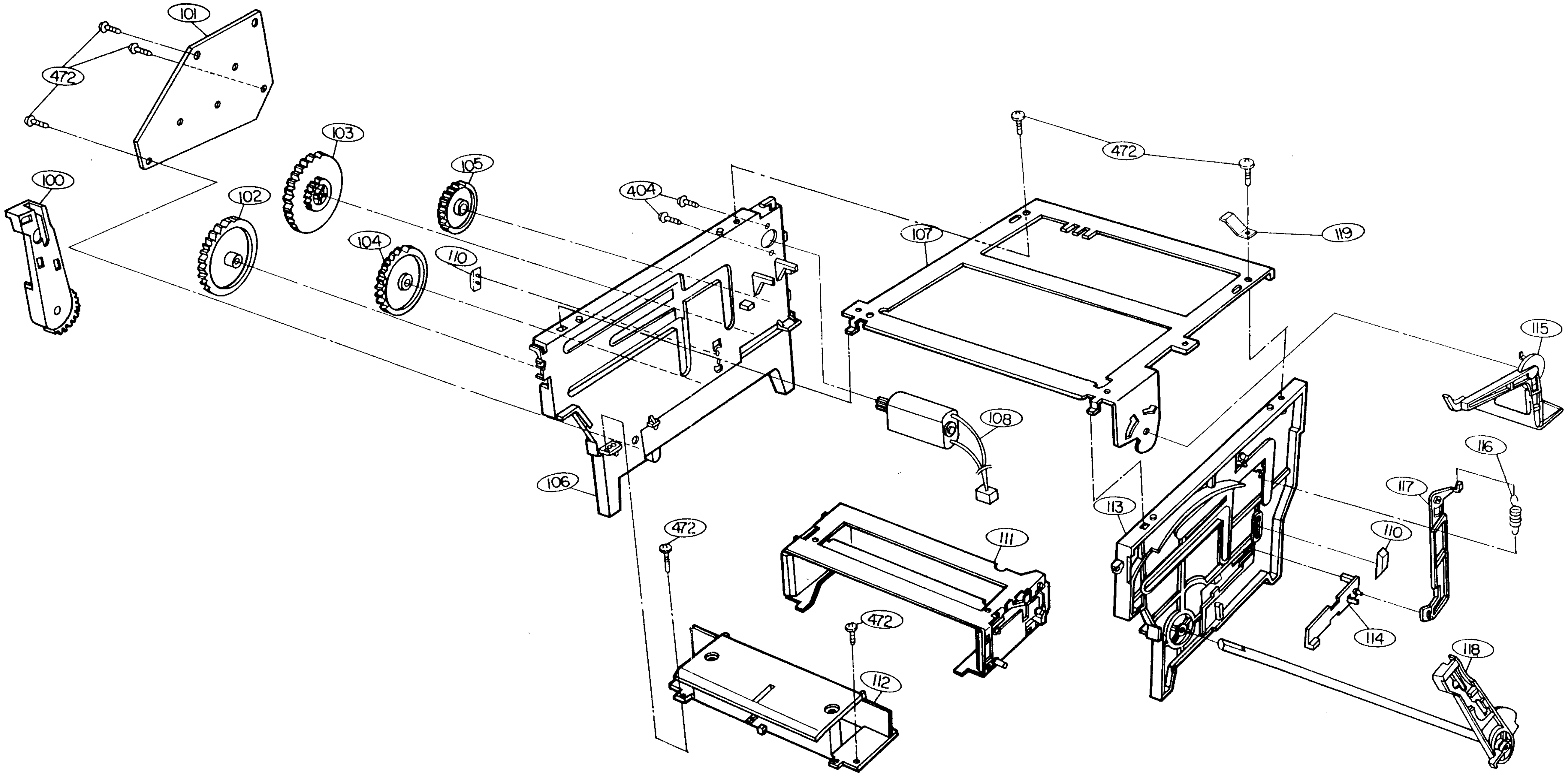

#1 TENSION POST
#2 GUIDE
#3 SLANT POST
#4 GUIDE ROLLER
#5 P1-GUIDE
#6 P2-GUIDE
#7 SLANT. POST (S)
#8 DRUM
#9 SLANT. POST (T)
#10 P3-GUIDE
#11 CAPSTAN &
PINCH ROLLER
#12 P4-GUIDE

Fig. 4-3-15

4. EXPLODED VIEW

4-1. CASSETTE HOUSING SECTION

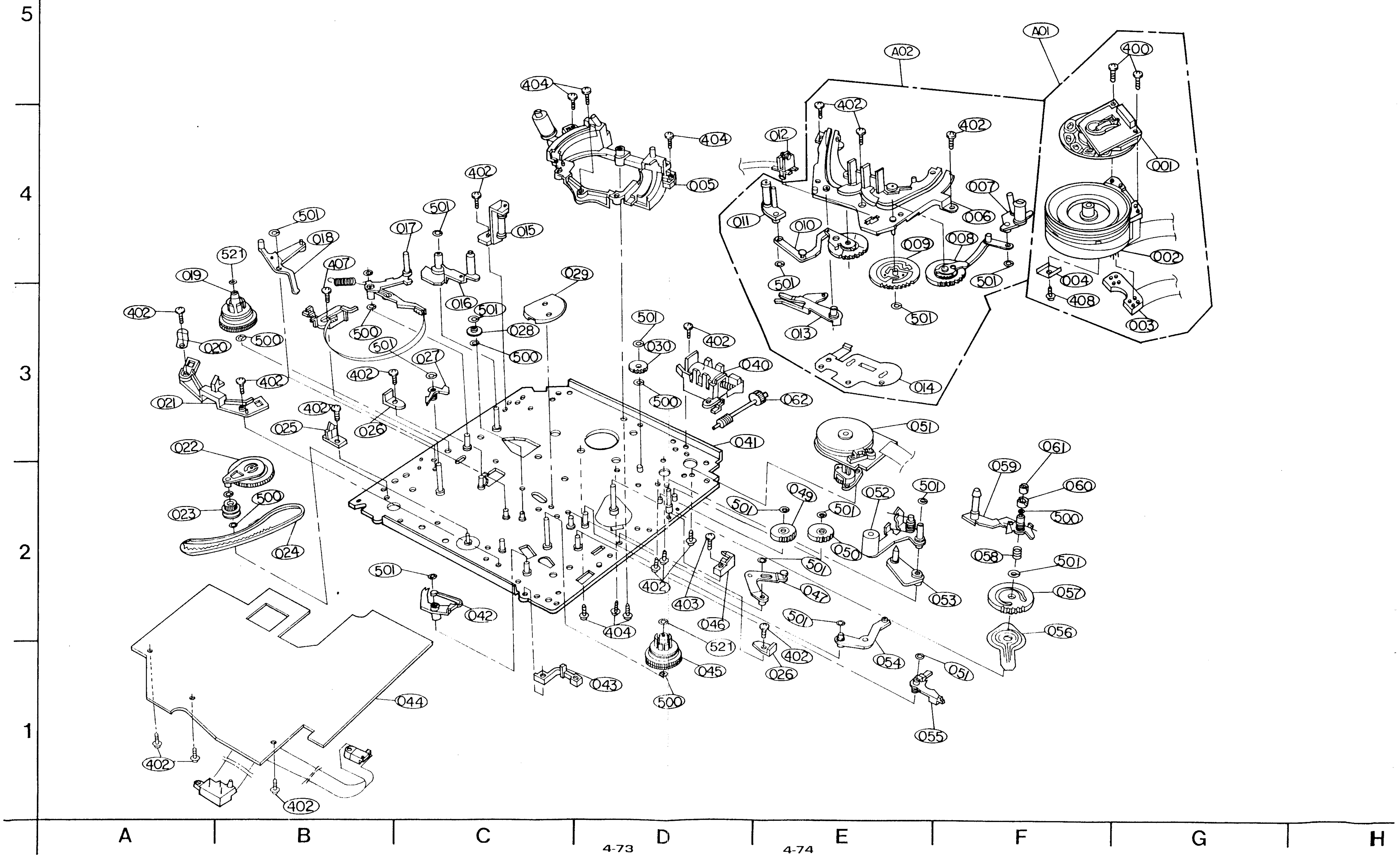
NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



101
472
103
105
100
102
404
472
107
119
104
110
115
108
116
117
106
113
110
472
111
472
114
118
112
5
4
3
2
1
A
B
C
D
E
F
G
H

4-2. CHASSIS MECHANISM SECTION

NOTE) 1) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.



5
4
3
2
1
A01
A02
400
001
002
003
004
408
402
402
402
012
011
010
013
014
007
006
008
009
501
501
501
404
404
005
402
015
501
017
016
501
018
521
019
402
407
029
501
028
500
500
501
027
500
501
030
402
040
500
062
020
500
402
021
402
026
402
025
022
500
023
024
041
051
061
059
060
500
058
501
057
056
501
049
501
050
052
501
053
501
047
402
403
046
404
501
042
521
045
500
043
402
026
501
054
501
055
044
402
402
A
B
C
D
E
F
G
H

SECTION 5 REPLACEMENT PARTS LIST

1. Mechanical Section

RUN DATE : 94.02.14
NSP: Not Service Part

1-1. VHS Mechanism

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
ASSEMBLY PARTS SECTION						
		A00	412-126B	DECK	ASSY D-17 (4HD VCR PAL)	
	OR	A00	412C126B	DECK	ASSY D-17	
	OR	A00	412G126B	DECK	ASSY D-17	
	OR	A00	412H126B	DECK	ASSY D-17	
	OR	A00	412W126B	DECK	ASSY D-17	
		A01	413-303B	DRUM	ASSY D17 F5CH (PAL)	
		A02	386-296B	ARM	ASSY CL	
	OR	A03	311-005G	CHASSIS ASSY'	D17	NSP
		A03	311-005M	CHASSIS ASSY'	D17	NSP
		A04	456-048A	REEL	ASSY SUPPLY POM 7G	
		A05	456-045A	REEL	ASSY T/UP POM 7G	
		A06	321-397D	BRACKET	ASSY F/R	
		A07	225-228A	BASE	ASSY A/C	
	OR	A08	225-248A	BASE	ASSY,P2	
		A08	225-248B	BASE	ASSY P2 (W-W)	
	OR	A09	225-249A	BASE	ASSY,P3	
		A09	225-249B	BASE	ASSY P3 (W-W)	
		A10	414-104A	MOTOR	ASSY LOAD	
		A11	333-209E	LEVER	ASSY PINCH	
		A20	321-401A	BRACKET	ASSY BOTTOM	
		A21	333-208A	LEVER	ASSY RAT	
		A22	338-078A	BRAKE	ASSY CAP	
		A23	386-218A	ARM	ASSY LOAD(R)	
		A24	386-219A	ARM	ASSY LOAD(L)	
		A25	511-997B	PWB ASSY!	D-17, VCR	
		A30	219-017F	HOUSING	ASSY (D17)	
		A32	435-257B	GEAR	ASSY DRIVE (HOOK ADDED)	
		A33	321-406A	BRACKET	ASSY CARRIER	
		A34	321-441A	BRACKET	ASSY SIDE	
		A35	515-106A	PWB ASSY	SENSOR	
PARTS SECTION						
		001	413-304B	DRUM	ASSY UPPER (D17-F5CH)PAL	
		002	413-305A	DRUM	ASSY,LOWER (D17-F5CH)	
		005	225-231B	BASE	ASSY D-BRUSH	
	OR	006	225-220A	BASE	DRUM	NSP
		006	225-220B	BASE	DRUM (W-W)	NSP
	OR	006	225-220C	BASE	DRUM (Y-H)	NSP
		007	386-297A	ARM	SUB ASSY CU	
		008	442-460B	SPRING	CU	
		009	442-459A	SPRING	CL	
		010	386-295B	ARM	CL	
		012	384-071A	GUIDE	17	
		014	378-017A	SLEEVE	P1	
		015	434-178A	ROLLER	P1	
	OR	015	434-178B	ROLLER	P1	
		016	389-003B	ADJUST	P(4)	
		018	386-205A	ARM	ASSY TENSION	

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		019	442-331C	SPRING	TENSION	
		020	328-052B	BAND	ASSY TENSION	
		021	334-066A	STOPPER	P1	
		027	435-243A	GEAR	IDLE A POM 3G	
		028	435-244A	GEAR	IDLE B POM 3G	
		029	456-040A	REEL	T17	NSP
		030	442-341A	SPRING	REEL	NSP
		031	276-068A	CAP	REEL	NSP
		032	456-039A	REEL	S17	NSP
		036	435-240A	GEAR	F/R POM 3G	
		037	442-336A	SPRING	UP/D	NSP
		038	435-239A	GEAR	UP/D POM 3G	NSP
		040	333-201B	LEVER	ASSY F/R	NSP
		044	442-338B	SPRING	SSB	NSP
		045	338-081A	BRAKE	S-SOFT	NSP
		046	442-337A	SPRING	SMB	NSP
		047	338-080A	BRAKE	ASSY S-MAIN	NSP
		048	442-339D	SPRING	TSB	NSP
		049	338-083A	BRAKE	ASSY T-SOFT	NSP
		050	321-396A	BRACKET	SUB ASSY F/R	NSP
		054	389-013A	ADJUST	X-ASSY	
		056	378-018A	SLEEVE	P4	
		060	442-343A	SPRING	T/UP	
		061	386-387B	ARM	ASSY T/UP	
		065	442-332A	SPRING	A/C	
		066	225-219A	BASE	SUB ASSY A/C	NSP
		068	523-089A	HEAD	SUB ASSY A/C	
		069	442-362A	SPRING	AZIMUTH	
		070	338-085A	BRAKE	ASSY T-MAIN	
		071	442-344A	SPRING	TMB	
		074	434-173A	ROLLER	ASSY GUIDE	
		075	353-054B	SCREW	MINIATURE	
		076	225-226B	BASE	SUB ASSY SLALT (L,W-W)	
		077	225-225B	BASE	SUB ASSY SLALT (R,W-W)	
		081	414-105A	MOTOR	SUB ASSY,L	
		082	437-009A	WORM	ASSY	
		083	321-410A	BRACKET	SUB ASSY L/M	
		084	433-023A	WHEEL	WORM	
		087	321-470A	BRACKET	ASSY DEW	
		088	435-448A	GEAR	PINCH (N)	
		090	442-347A	SPRING	PINCH	NSP
		091	386-210A	ARM	ASSY PINCH	NSP
		092	442-346A	SPRING	STOPPER	NSP
		093	334-050C	STOPPER	PINCH	NSP
	OR	094	434-181A	ROLLER	ASSY PINCH	
		094	434-181B	ROLLER	PINCH D14 X L18	
		095	276-089B	CAP	PINCH	NSP
		096	333-203A	LEVER	PINCH	NSP
		098	333-344A	LEVER	T-UP (N)	
		100	321-463A	BRACKET	SUB ASSY B	NSP
		102	435-249A	GEAR	RAT1	NSP
		103	442-356A	SPRING	F-LEVER	NSP
		104	356-208A	PIN	F-LEVER	NSP
		106	442-345A	SPRING	RAT	NSP
		107	333-202A	LEVER	RAT	NSP

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		108	333-207A	LEVER	F17	NSP
		110	374-005A	CAM	D17 POM 10G	
		111	435-318A	GEAR	ASSY RACK F/L	
		112	435-291A	GEAR	ASSY RACK T	
		113	435-246A	GEAR	PC POM 3G	
		114	414-121B	MOTOR	CAPSTAN, GVC017S	
		115	452-047A	BELT	CENTER D71.9 X SQRT2.0	
		116	256-734A	PLATE	F17	
		117	442-342B	SPRING	FP	
		120	338-089A	BRAKE	SUB ASSY CAP	
		121	442-333A	SPRING	CAPSTAN	
		122	432-038A	PULLEY	GEAR POM 3G	
		130	337-005A	CLUTCH	ASSY POM 7G FELT 20X1X1T 2EA	
		131	324-643A	HOLDER	LED	
		132	324-642A	HOLDER	R/S	
		133	513-494B	PWB	JUNCTION D-17 242X121X1.6T	NSP
		134	556-133A	SWITCH	MODE	
	OR	134	556-133B	SWITCH	MODE, ALPS	
	OR	135	0DL451000AA	DIODE LED	IR SENSOR GL451(LONG) SHARP	
		135	0DL550000AB	DIODE LED	IR SENSOR EL-55L(LONG) KOC	
		136	657-102K	SENSOR	SG-105(REEL) D-16 KOC	
		137	556-131A	SWITCH	ESE-105SV1	
		138	435-234A	GEAR	LOAD(R)	
		139	442-330A	SPRING	LOADING	
		140	386-274A	ARM	SUB ASSY (R)	
		142	435-235A	GEAR	LOAD(L)	
		143	442-330B	SPRING	LOADING	
		144	386-273A	ARM	SUB ASSY (L)	
		146	333-218A	LEVER	ASSY A-TEN	
		150	321-527A	BRACKET	ASSY C-GUIDE	
		201	256-934B	PLATE	TOP	
		204	465-026A	OPENER	DOOR	
		205	321-517B	BRACKET	LEFT (D17)	
		206	321-518A	BRACKET	RIGHT (D17)	
		207	435-278A	GEAR	RACK N/D	
		208	256-910A	PLATE	GND TOP	
		210	321-440A	BRACKET	SIDE	
		213	442-351A	SPRING	OC	NSP
		214	465-028A	OPENER	CST	NSP
		215	442-357A	SPRING	RID	NSP
		216	465-027A	OPENER	RID	NSP
		217	324-647A	HOLDER	R	NSP
		218	321-407A	BRACKET	SUPPORT	NSP
		219	321-405A	BRACKET	CARRIER	NSP
		220	324-646A	HOLDER	L	NSP
		221	333-210A	LEVER	DT	NSP
		222	442-358B	SPRING	DT	NSP
		225	384-074A	GUIDE	CST	
		226	442-352A	SPRING	L	NSP
		227	435-254A	GEAR	L	NSP
		228	442-350A	SPRING	S/W	
		229	333-204A	LEVER	S/W	NSP
		230	423-368A	SHAFT	D	NSP
		231	442-353A	SPRING	R	NSP
		232	435-255A	GEAR	R	NSP

RUN DATE : 94.02.14

NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		233	435-256B	GEAR	C (HOOK ADDED)	NSP
		234	442-359C	SPRING	CUSHION (D17F/L)	NSP
		235	442-354A	SPRING	CC	NSP
		236	276-086A	CAP	DRIVE	NSP
				SCREW		
		400	1MDC0302418	PAN HEAD MACHINE SCREW P/WASH+	D 3.0 L 8.0 MSWR3/FZY	
		401	1MPK0261418	PAN HEAD MACHINE SCREW +,-	D 2.6 L 4.0 MSWR3/FZY	
		402	353-021D	SCREW	SPECIAL	
		404	353-048C	SCREW	CONE POINT 3X10	
		408	1MBC0302418	BINDING HEAD MACHINE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		411	353-046B	SCREW	SPECIAL (3X8 FZMY)	
		412	1MBC0302818	BINDING HEAD MACHINE SCREW +	D 3.0 L 12 MSWR3/FZY	
		421	1MPC0302618	PAN HEAD MACHINE SCREW +!	D3.0 L10.0,MSWR3/FZY	
		422	1MPC0302418	PAN HEAD MACHINE SCREW +!	D 3.0 L 8.0 MSWR3/FZY	
		425	1SRF0302418	BRAIZER HD TAP TITE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		426	1MPC0302018	PAN HEAD MACHINE SCREW +!	D 3.0 L 6.0 MSWR3/FZY	
				NUT, WASHER		
		503	354-020E	WASHER	STOPPER	
		504	354-001B	WASHER	P.S D3.1XD6X0.5T	
		505	354-080E	WASHER	STOPPER	
		506	352-025A	NUT	NYLON M3	
		507	354-020J	WASHER	STOPPER(2.6X4.8X0.5)	
		511	354-080C	WASHER	STOPPER	
		512	354-080E	WASHER	STOPPER	NSP
		513	354-080A	WASHER	STOPPER	NSP
		514	354-080B	WASHER	STOPPER	NSP
		516	354-033B	WASHER	STOPPER	

RUN DATE : 94.02.14

1-2. 8mm Mechanism

NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
ASSEMBLY PARTS SECTION						
		A00	412-133A	DECK	SUB ASSY D-21 (F/L)	
		A01	413-306A	DRUM	ASSY	
		A02	225-282A	BASE	ASSY LOADING	
		A30	219-021A	HOUSING	ASSY F/L (D-21)	
		A80	412-132A	DECK	ASSY D-21 (F/L)	
PARTS SECTION						
		001	414-156C	MOTOR	D-21 STATTOR,DRUM DM-21	NSP
		002	413-352A	DRUM	SUB ASSY	
		003	515-655B	PWB ASSY!	DRUM SIGNAL	NSP
		004	255-148A	PLATE	SIGNAL GROUND	
		005	225-279A	BASE	ASSY DRUM	
		006	225-283A	BASE	SUB ASSY LOADING	
		007	225-285A	BASE	ASSY S/POST(T)	
		008	435-329A	GEAR	SUB ASSY LOADING(T)	
		009	435-327A	GEAR	CAM	
		010	435-332A	GEAR	SUB ASSY LOADING(S)	
		011	225-288A	BASE	ASSY S/POST(S)	
		012	657-031A	SENSOR	ASSY LED	
		013	333-264A	LEVER	ASSY DRIVE	
		014	255-058A	PLATE	L/BASE	
		015	321-535A	BRACKET	ASSY SLANT GUIDE	
		016	386-310A	ARM	ASSY SLANT ROLLER	
		017	386-313A	ARM	ASSY TENSION	
		018	333-254A	LEVER	ASSY BRAKE	
		019	375-015A	DISC	ASSY REEL(S)	
		020	222-019A	PROTECTOR	T/BAND	
		021	321-534A	BRACKET	SENSOR	
		022	386-307A	ARM	ASSY IDLER	
		023	435-323A	GEAR	ASSY DRIVE	
		024	452-054A	BELT	REEL DRIVE (YAMAUCHI)	
		025	322-051A	SUPPORTER	CST	
		026	657-032A	SENSOR	ASSY END	
		027	338-093A	BRAKE	ASSY SOFT	
		028	431-028A	IDLER	BELT	
		029	445-005A	SPACER	CAM GEAR	
		030	435-334A	GEAR	ASSY CONVERSION	
		040	414-137B	MOTOR	ASSY LOADING	
		041	313-041B	CHASSIS	ASSY MAIN(F/L)	NSP
		042	338-104A	BRAKE	CLUTCH	
		043	321-533A	BRACKET	RECOG S/W	
		044	515-680A	PWB ASSY!	ASSY JUNCTION	
		045	375-016A	DISC	ASSY REEL(T)	
		046	324-823A	HOLDER	SHAFT	
		047	333-267A	LEVER	ASSY T/UP	
		049	435-321A	GEAR	MIDDLE	
		050	435-348A	GEAR	ASSY TRANSFER	
		051	414-141A	MOTOR	D-21 CAPSTAN MOTOR GSD	

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		052	386-319A	ARM	ASSY PINCH	
		053	333-271A	LEVER	ASSY PINCH	NSP
		054	333-269A	LEVER	ASSY MODE	
		055	333-286A	LEVER	ASSY EJECT	
		056	504-476A	PWB	MODE S/W	
		057	435-347A	GEAR	ASSY MODE	
		058	442-486A	SPRING	T/UP ARM(C)	
		059	386-316A	ARM	ASSY T/UP	
		060	352-028A	NUT	T/UP ARM(A)	
		061	352-030A	NUT	T/UP ARM(B)	
		062	423-483A	SHAFT	ASSY WORM(L)	
		100	333-323A	LEVER	ASSY LOADING (L)	NSP
		101	257-058A	PLATE	GEAR	
		102	435-399A	GEAR	A	
		103	435-401A	GEAR	C	
		104	435-400A	GEAR	B	
		105	435-402A	GEAR	D	
		106	225-329A	BASE	SIDE (L)	
		107	257-057A	PLATE	SIDE BASE	
		108	414-162A	MOTOR	ASSY HOUSING	
		110	577-014A	PRISM	END SENSOR	
		111	225-332A	BASE	ASSY LOADING	
		112	257-060A	PLATE	ASSY BASE	
		113	225-328A	BASE	SIDE (R)	
		114	333-319A	LEVER	SWITCH	NSP
		115	333-320A	LEVER	DOOR	NSP
		116	442-593A	SPRING	LOCK(L)	
		117	333-318A	LEVER	LOCK	NSP
		118	333-322A	LEVER	ASSY LOADING (R)	NSP
		119	256-889A	PLATE	CGND	
		342	321-638A	BRACKET	ASSY DECK (8MM)	

SCREW

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		400	353-078B	SCREW	MACHINE+2X9	
		401	353-152A	SCREW	PS (M1.7X2)	
		402	353-153A	SCREW	PS (M2X3)	
		403	353-153B	SCREW	PS(M2X4)	
		404	353-153C	SCREW	PS (M2X5)	
		405	353-153D	SCREW	PS (M2X6)	
		407	353-091C	SCREW	SPECIAL M	
		408	1MFU0201418	FLAT HEAD MACHINE SCREW PREC 1	D 2.0 L 4.0 MSWR3/FZY	
		415	353-062A	SCREW	STEP	

NUT, WASHER

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		500	354-101A	WASHER	SLIDE (1.5TX3.0X0.13)	
		501	354-099A	WASHER	STOP(1.25X3.0X0.25)	
		502	354-104A	WASHER	STOP (2.2X5.0X0.25)	
		520	354-048E	WASHER	PS+D6XD2.6XT0.5	
		521	354-120A	WASHER	REEL STOP	

2. Cabinet & Main Frame Section

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
ASSEMBLY PARTS SECTION						
		A40	315-314C	FRAME	ASSY MAIN	NSP
		A41	232-683B	BOARD ASSY	KEY (8MM)	
		A42	232-912S	BOARD ASSY	VHS KEY & TIMER	
		A43	258-597L	PANEL	ASSY FRONT	
		A44	232-868S	BOARD ASSY	POWER1	
		A45	232-865P	BOARD ASSY	VHS PRE-AMP	
		A46	232-864P	BOARD ASSY	MAIN (C+,VCR+)	
		A47	232-911P	BOARD ASSY	8MM PRE-AMP	
		A48	232-867P	BOARD ASSY	8MM MAIN	
PARTS SECTION						
		250	217-472B	CASE	TOP	
		251	321-526A	BRACKET	HOUSING	
		260	315-300B	FRAME	MAIN	NSP
		262	257-061A	PLATE	GND (FTZ)	NSP
		263	324-976A	HOLDER	PWB	NSP
		275	324-872A	HOLDER	DIGITRON	
		280	258-552E	PANEL	FRONT	NSP
		282	226-072K	DOOR	ASSY FRONT	
		283	226-053F	DOOR	CST	
		284	442-469A	SPRING	DOOR	
		286	236-429B	WINDOW	LIGHTING	
		287	236-429A	WINDOW	LIGHTING	
		288	524-007M	MAGNET	ASSY DOOR	
		289	321-492A	BRACKET	ASSY DOOR	
		290	321-490A	BRACKET	ASSY DAMPER	
		291	435-427D	GEAR	ASSY DAMPER(B.K)	
		292	435-301A	GEAR	IDLER	
*		300	681-051A	CORD	KKP-419J B-172 KLCE-2F PAL	
		303	255-149A	PLATE	HEAT SINK	
		304	221-407A	COVER	FUSE	
		306	324-951A	HOLDER	TRANSISTER	
		307	221-144E	COVER	INSULATION	
		320	258-596G	PANEL	ASSY DISTRIBUTOR	
		321	257-006A	PLATE	BOTTOM GROUND	
		330	221-834A	COVER	BOTTOM	
		340	226-064A	DOOR	FRONT	
		341	442-591A	SPRING	DOOR	
SCREW						
		451	353-046C	SCREW	(3X10 FZMY)	
		452	353-051A	SCREW	SPECIAL	
		454	1TRL0402418	BRAIZER HEAD TA SCREW + 2 CUT	D 4.0 L 8.0 MSWR3/FZY	
		458	353-051C	SCREW	SPECIAL(3X12)	
		462	353-136A	SCREW	SPECIAL(FBK) (353S353A)	
		463	1MBC0302418	BINDING HEAD MACHINE SCREW +	D 3.0 L 8.0 MSWR3/FZY	
		472	353-090A	SCREW	SPECIAL TP	

3. Packing Accessory Section

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		801	480-517U	INSTRUCTION ASSY		
		802	288-900A	BOX CARTON		
		803	283-217A	PACKING		
		804	291-002D	SHEET CUSHION		NSP
		808	534-008C	BATTERY	AAAM(R03) 1.5V 1PAIR(LOCAL)	
		810	861-507L	CABLE SET ASSY	PAL CABLE ASSY (3C-2V) MONO	

4. Remote Control Section

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		900	597-089S	REMOTE CONTROL	R/C ASSY	
		901	236-484A	WINDOW	FILTER(R/C)	NSP
		902	221-858L	COVER	DOOR (R/C)	NSP
		903	217-485B	CASE	TOP (R/C)	NSP
		904	275-610H	BUTTON	RUBBER FUNCTION	NSP
		905	275-612A	BUTTON	RUBBER VHS (R/C)	NSP
		906	275-611A	BUTTON	RUBBER 8MM (R/C)	NSP
		907	515-824C	PWB ASSY!	REMOCON	NSP
		908	442-611A	SPRING	COIL (R/C)	NSP
		909	217-486B	CASE	BOTTOM (R/C)	NSP
		910	221-857B	COVER	BATTERY	
		911	477-054A	RUBBER	BUMPON	NSP

5. Fixture Section

RUN DATE : 94.02.14
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		FIX	960-015J	FIXTURE	SVC FIXTURE	
		FIX1	232-972A	BOARD ASSY	SVC FIXTURE	
		FIX2	515-789A	PWB ASSY	FIXTURE (PRE-AMP)	

6. Electrical Section

RUN DATE : 94.02.14

CAUTION: The * marks in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the SAFETY PRECAUTIONS and SERVICING PRECAUTIONS in the manual. Do not degrade the safety of the unit through improper servicing.

Tolerance

Symbol	C	J	K	M	N	Z	P	A
%	±2	±5	±10	±20	±30	+80 -20	+100 -10	+100 -10

CC, CJ, CK: Capacitor, Ceramic
CE: Capacitor, Electrolytic
CQ: Capacitor, Polyester

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
CAPACITOR				
		C001	0CN1040K948	0.1M 50V Z F TA26
		C002	0CN1040K948	0.1M 50V Z F TA26
		C003	0CN1040K948	0.1M 50V Z F TA26
		C004	0CN2230H948	0.022M 25V Z F TA26
		C005	0CN2230H948	0.022M 25V Z F TA26
		C006	0CN2230H948	0.022M 25V Z F TA26
		C007	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C008	0CN2230H948	0.022M 25V Z F TA26
		C009	0CN1030F678	0.01M 16V M Y TA26
		C00A	0CN2230H948	0.022M 25V Z F TA26
		C00B	0CN2230H948	0.022M 25V Z F TA26
		C010	0CN8200K518	82PF 50V K B TA26
		C012	0CN1520F668	1500P 16V M X TA26
		C013	0CX2700K408	27P 50V J SL TA26
		C014	0CN2230H948	0.022M 25V Z F TA26
		C015	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C016	0CN2710K518	270P 50V K B TA26
		C017	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C018	0CN2230H948	0.022M 25V Z F TA26
		C019	0CN3310K518	330P 50V K B TA26
		C020	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C021	0CN2230H948	0.022M 25V Z F TA26
		C032	0CX4700K408	47P 50V J SL TA26
		C033	0CN1030F678	0.01M 16V M Y TA26
		C0AA	0CN8200K518	82PF 50V K B TA26
		C101	624-018A	LINE DE7100 FZ 472P VA1-KC
		C102	624-018A	LINE DE7100 FZ 472P VA1-KC
		C103	0CN4730K948	0.047M 50V Z F TA26
		C104	0CE1076L610	100M SMS 63V M FM5
		C105	0CE4766K638	47M SMS 50V M FM5 TP
		C106	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C107	0CE1076L610	100M SMS 63V M FM5
		C108	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C109	0CE2266K638	22M SMS 50V M FM5 TP(5)
*		C110	624-025A	4700UF-35V(23X37)
		C111	0CE4786F610	4700M SMS 16V M FL
		C112	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C113	0CE2266K638	22M SMS 50V M FM5 TP(5)
		C115	0CE4766K638	47M SMS 50V M FM5 TP
		C116	0CE4766K638	47M SMS 50V M FM5 TP
		C117	0CE4766F638	47M SMS 16V M FM5 TP5
		C118	0CE4775C638	470M SR 6.3V M FM5 TP(5)
		C119	0CE4766K638	47M SMS 50V M FM5 TP
		C120	0CE4766F638	47M SMS 16V M FM5 TP5
		C121	0CE4766K638	47M SMS 50V M FM5 TP
		C122	0CE4766F638	47M SMS 16V M FM5 TP5
		C123	0CN4730K948	0.047M 50V Z F TA26
		C124	0CN4730K948	0.047M 50V Z F TA26
		C125	0CN4730K948	0.047M 50V Z F TA26
		C126	0CN4730K948	0.047M 50V Z F TA26
		C127	0CN4730K948	0.047M 50V Z F TA26
		C128	0CN4730K948	0.047M 50V Z F TA26
		C129	0CN4730K948	0.047M 50V Z F TA26
		C130	0CN4730K948	0.047M 50V Z F TA26
		C131	0CE4766K638	47M SMS 50V M FM5 TP
		C132	0CE4766F638	47M SMS 16V M FM5 TP5
		C133	0CE1074D638	100M SRA 10V M FM5 TP(5)
		C201	0CQ2234K409	0.022U 50V J POLY TE TP
		C202	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C203	0CQ4734K409	0.047U 50V J POLY TE TP
		C204	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C205	0CQ2234K409	0.022U 50V J POLY TE TP
		C206	0CQ4734K409	0.047U 50V J POLY TE TP
		C207	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C208	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C209	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C210	0CQ8221N409	0.0082U 100V J POLY TP
		C211	0CQ2234K409	0.022U 50V J POLY TE TP
		C212	0CN4730K948	0.047M 50V Z F TA26
		C213	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C214	0CN4730K948	0.047M 50V Z F TA26
		C215	0CN4730K948	0.047M 50V Z F TA26
		C216	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C217	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C218	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C219	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C220	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C221	0CQ1221N409	0.0012U 100V J POLY TP
		C222	0CN1040K948	0.1M 50V Z F TA26
		C223	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C224	0CN1210K518	120P 50V K B TA26
		C225	0CN1510K518	150P 50V K B TA26
		C226	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C227	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C228	0CQ1021N409	0.001U 100V J POLY TP
		C229	0CQ4734K409	0.047U 50V J POLY TE TP
		C230	0CN1030F678	0.01M 16V M Y TA26
		C231	0CE1074F638	100U SRA 16V M FM5 TP(5)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C232	0CN4730K948	0.047M 50V Z F TA26
		C233	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C234	0CN4730K948	0.047M 50V Z F TA26
		C235	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C236	624-027A	GOLD 0.047F-5.5V D13.0X8.5 NEC
		C237	0CN4730K948	0.047M 50V Z F TA26
		C238	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C239	0CN4730K948	0.047M 50V Z F TA26
		C240	0CN1020K518	1000P 50V K B TA26
		C241	0CN1020K518	1000P 50V K B TA26
		C242	0CN1030F678	0.01M 16V M Y TA26
		C243	0CN1030F678	0.01M 16V M Y TA26
		C244	0CN1020K518	1000P 50V K B TA26
		C245	0CN1030F678	0.01M 16V M Y TA26
		C246	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C247	0CN1040K948	0.1M 50V Z F TA26
		C248	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C249	0CC1500K415	15P 50V J NP0 TS
		C250	0CC2400K415	24P 50V J NP0 TP
		C291	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C292	0CN4730K948	0.047M 50V Z F TA26
		C293	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C294	0CX2700K408	27P 50V J SL TA26
		C295	0CN1030F678	0.01M 16V M Y TA26
		C296	0CN1040K948	0.1M 50V Z F TA26
		C297	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C298	0CN1030F678	0.01M 16V M Y TA26
		C299	0CN1030F678	0.01M 16V M Y TA26
		C2B1	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C2B2	0CN1040K948	0.1M 50V Z F TA26
		C301	0CN1030F678	0.01M 16V M Y TA26
		C302	0CN1030F678	0.01M 16V M Y TA26
		C303	0CN1010K518	100P 50V K B TA26
		C304	0CE1066F638	10UF SMS 16V M FM5 TP5
		C305	0CE1064F636	10M SRA 16V M FM5 BP TP(D)
		C306	0CN2230H948	0.022M 25V Z F TA26
		C307	0CE4766F638	47M SMS 16V M FM5 TP5
		C308	0CX2700K408	27P 50V J SL TA26
		C309	0CE1066F638	10UF SMS 16V M FM5 TP5
		C30G	0CN1030F678	0.01M 16V M Y TA26
		C30H	0CX1200K408	12P 50V J SL TA26
		C30J	0CX1800K408	18P 50V J SL TA26
		C30K	0CN1030F678	0.01M 16V M Y TA26
		C30L	0CN1010K518	100P 50V K B TA26
		C30M	0CE4766F638	47M SMS 16V M FM5 TP5
		C310	0CN4730K948	0.047M 50V Z F TA26
		C311	0CE4766F638	47M SMS 16V M FM5 TP5
		C312	0CN2230H948	0.022M 25V Z F TA26
		C313	0CN1030F678	0.01M 16V M Y TA26
		C314	0CN4730K948	0.047M 50V Z F TA26
		C315	0CN1030F678	0.01M 16V M Y TA26
		C316	0CN2230H948	0.022M 25V Z F TA26
		C317	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C318	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C319	0CQ8221N409	0.0082U 100V J POLY TP
		C320	0CN1030F678	0.01M 16V M Y TA26
		C321	0CQ5631N409	0.056U 100V J POLY TP
		C322	0CX4700K408	47P 50V J SL TA26
		C323	0CX2700K408	27P 50V J SL TA26
		C324	0CX3900K408	39P 50V J SL TA26
		C325	0CC1810K405	180P 50V J SL TP
		C326	0CX1500K408	15P 50V J SL TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C327	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C328	0CN3910K518	390P 50V K B TA26
		C329	0CX5600K408	56P 50V J SL TA26
		C330	0CC0500K015	5P 50V C NP0 TR
		C331	0CN8200K518	82PF 50V K B TA26
		C332	0CC3900K415	39P 50V J NPO TP
		C333	0CX4700K408	47P 50V J SL TA26
		C334	0CE1066F638	10UF SMS 16V M FM5 TP5
		C335	0CE1066F638	10UF SMS 16V M FM5 TP5
		C336	0CE3346K638	0.33M SMS 50V M FM5 TP(5)
		C337	0CN2230H948	0.022M 25V Z F TA26
		C338	0CQ2231N409	0.022U 100V J POLY TP
		C339	0CN2230H948	0.022M 25V Z F TA26
		C340	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C341	0CN4730K948	0.047M 50V Z F TA26
		C342	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C343	0CN4710K518	470P 50V K B TA26
		C344	0CN2230H948	0.022M 25V Z F TA26
		C345	0CE4766F638	47M SMS 16V M FM5 TP5
		C346	0CN2230H948	0.022M 25V Z F TA26
		C347	0CE4766F638	47M SMS 16V M FM5 TP5
		C348	0CN1030F678	0.01M 16V M Y TA26
		C349	0CE3346K638	0.33M SMS 50V M FM5 TP(5)
		C350	0CN2230H948	0.022M 25V Z F TA26
		C351	0CE4766F638	47M SMS 16V M FM5 TP5
		C352	0CX6800K408	68P 50V J SL TA26
		C353	0CE4766F638	47M SMS 16V M FM5 TP5
		C354	0CN1030F678	0.01M 16V M Y TA26
		C355	0CX4700K408	47P 50V J SL TA26
		C356	0CC0600K015	6P 50V C NP0 TS
		C357	0CX3300K408	33P 50V J SL TA26
		C358	0CE4766F638	47M SMS 16V M FM5 TP5
		C359	0CN2230H948	0.022M 25V Z F TA26
		C360	0CN1030F678	0.01M 16V M Y TA26
		C361	0CN1030F678	0.01M 16V M Y TA26
		C362	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C367	0CE4766F638	47M SMS 16V M FM5 TP5
		C368	0CN2230H948	0.022M 25V Z F TA26
		C373	0CN1040K948	0.1M 50V Z F TA26
		C379	0CX1800K408	18P 50V J SL TA26
		C381	0CX3900K408	39P 50V J SL TA26
		C383	0CN2230H948	0.022M 25V Z F TA26
		C384	0CE4766F638	47M SMS 16V M FM5 TP5
		C385	0CE3366F638	33M SMS 16V M FM5 TP(5)
		C386	0CN1030F678	0.01M 16V M Y TA26
		C387	0CC1210K405	120P 50V J SL TS
		C388	0CQ5631N409	0.056U 100V J POLY TP
		C389	0CE4766F638	47M SMS 16V M FM5 TP5
		C391	0CN1040K948	0.1M 50V Z F TA26
		C392	0CN2230H948	0.022M 25V Z F TA26
		C393	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C394	0CX2700K408	27P 50V J SL TA26
		C395	0CN5610K518	560P 50V K B TA26
		C396	0CX2700K408	27P 50V J SL TA26
		C397	0CN1030F678	0.01M 16V M Y TA26
		C398	0CN1010K518	100P 50V K B TA26
		C3A0	0CN1030F678	0.01M 16V M Y TA26
		C3A1	0CN2230H948	0.022M 25V Z F TA26
		C3A2	0CE4766F638	47M SMS 16V M FM5 TP5
		C3A3	0CN1030F678	0.01M 16V M Y TA26
		C3A4	0CX2200K408	22P 50V J SL TP26
		C3A5	0CN2230H948	0.022M 25V Z F TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C3A6	0CN1030F678	0.01M 16V M Y TA26
		C3A7	0CX1800K408	18P 50V J SL TA26
		C3A8	0CN1030F678	0.01M 16V M Y TA26
		C3B0	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C3B1	0CN1030F678	0.01M 16V M Y TA26
		C3B2	0CN1030F678	0.01M 16V M Y TA26
		C3B3	0CN2230H948	0.022M 25V Z F TA26
		C3B4	0CE4766F638	47M SMS 16V M FM5 TP5
		C3B5	0CN1040K948	0.1M 50V Z F TA26
		C3B6	0CE4744K638	0.47M SRA 50V M FM5 TP(5)
		C3B7	0CC0700K015	7P 50V C NP0 TS
		C3B8	0CE4744K638	0.47M SRA 50V M FM5 TP(5)
		C3B9	0CN2230H948	0.022M 25V Z F TA26
		C3C0	0CE1044K638	0.1M SRA 50V M FM5 TP(5)
		C3C1	0CN1210K518	120P 50V K B TA26
		C3C2	0CC0600K015	6P 50V C NP0 TS
		C3C3	0CX1000K408	10P 50V J SL TA26
		C3C4	0CN1030F678	0.01M 16V M Y TA26
		C3C5	0CE4766F638	47M SMS 16V M FM5 TP5
		C3C6	0CC3900K415	39P 50V J NPO TP
		C3C7	0CN2230H948	0.022M 25V Z F TA26
		C3C8	0CN1030F678	0.01M 16V M Y TA26
		C3C9	0CN1040K948	0.1M 50V Z F TA26
		C3D0	0CE4766F638	47M SMS 16V M FM5 TP5
		C3D1	0CN1030F678	0.01M 16V M Y TA26
		C3D2	0CN1030F678	0.01M 16V M Y TA26
		C3D3	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3D4	0CN1030F678	0.01M 16V M Y TA26
		C3D5	0CN1040K948	0.1M 50V Z F TA26
		C3D6	0CX1500K408	15P 50V J SL TA26
		C3D7	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3D8	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3D9	0CN2230H948	0.022M 25V Z F TA26
		C3E1	0CE4766F638	47M SMS 16V M FM5 TP5
		C3E2	0CN1040K948	0.1M 50V Z F TA26
		C3E3	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3E4	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3E6	0CN3310K518	330P 50V K B TA26
		C3E7	0CN1030F678	0.01M 16V M Y TA26
		C3E9	0CE1044K638	0.1M SRA 50V M FM5 TP(5)
		C3F1	0CN1810K518	180P 50V K B TA26
		C3F2	0CE4766F638	47M SMS 16V M FM5 TP5
		C3F3	0CN2230H948	0.022M 25V Z F TA26
		C3F4	0CC0400K015	4P 50V C NP0 TS
		C3F5	0CX2200K408	22P 50V J SL TP26
		C3F6	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3F7	0CN1030F678	0.01M 16V M Y TA26
		C3F9	0CN1030F678	0.01M 16V M Y TA26
		C3G0	0CN3910K518	390P 50V K B TA26
		C3G1	0CN4710K518	470P 50V K B TA26
		C3G2	0CE4766F638	47M SMS 16V M FM5 TP5
		C3G3	0CN2230H948	0.022M 25V Z F TA26
		C3G4	0CE4766F638	47M SMS 16V M FM5 TP5
		C3G5	0CN2230H948	0.022M 25V Z F TA26
		C3G6	0CN1030F678	0.01M 16V M Y TA26
		C3G7	0CN1010K518	100P 50V K B TA26
		C3G8	0CN1020K518	1000P 50V K B TA26
		C3G9	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C3H1	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C3H2	0CN1520F668	1500P 16V M X TA26
		C3H3	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C3J1	0CE4766F638	47M SMS 16V M FM5 TP5

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C3J2	0CN2230H948	0.022M 25V Z F TA26
		C3J4	0CN8200K518	82PF 50V K B TA26
		C3J6	0CN1040K948	0.1M 50V Z F TA26
		C401	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C402	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C405	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C407	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C408	0CE4766F638	47M SMS 16V M FM5 TP5
		C410	0CN1040K948	0.1M 50V Z F TA26
		C411	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C412	0CN1040K948	0.1M 50V Z F TA26
		C413	0CN1040K948	0.1M 50V Z F TA26
		C414	0CE1066F638	10UF SMS 16V M FM5 TP5
		C415	0CN1040K948	0.1M 50V Z F TA26
		C416	0CQ8221N409	0.0082U 100V J POLY TP
		C417	0CE2266F638	22M SMS 16V M FM5 TP5
		C418	0CQ1531N409	0.015U 100V J POLY TP
		C419	0CQ1031N409	0.01U 100V J POLY TP
		C420	0CE1066F638	10UF SMS 16V M FM5 TP5
		C421	0CE4766F638	47M SMS 16V M FM5 TP5
		C422	0CN1030F678	0.01M 16V M Y TA26
		C423	0CE2266F638	22M SMS 16V M FM5 TP5
		C424	0CQ1231N409	0.012U 100V J POLY TP
		C425	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C426	0CN1030F678	0.01M 16V M Y TA26
		C427	0CQ1031N409	0.01U 100V J POLY TP
		C428	0CQ1031N409	0.01U 100V J POLY TP
		C429	0CQ1031N409	0.01U 100V J POLY TP
		C430	0CQ1031N409	0.01U 100V J POLY TP
		C431	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C432	0CN1030F678	0.01M 16V M Y TA26
		C433	0CE4766F638	47M SMS 16V M FM5 TP5
		C434	0CQ3331N409	0.033U 100V J POLY TP
		C435	0CN2210K518	220P 50V K B TA26
		C436	0CE3356K638	3.3M SMS 50V M FM5 TP(5)
		C437	0CE1066F638	10UF SMS 16V M FM5 TP5
		C438	0CQ5631N409	0.056U 100V J POLY TP
		C450	0CN1040K948	0.1M 50V Z F TA26
		C451	0CN1040K948	0.1M 50V Z F TA26
		C4A0	0CE4766F638	47M SMS 16V M FM5 TP5
		C4A1	0CN2230H948	0.022M 25V Z F TA26
		C4A2	0CE4766F638	47M SMS 16V M FM5 TP5
		C4A3	0CN1030F678	0.01M 16V M Y TA26
		C4A4	0CN8200K518	82PF 50V K B TA26
		C4A5	0CN3910K518	390P 50V K B TA26
		C4A6	0CN1030F678	0.01M 16V M Y TA26
		C4A7	0CN1520F668	1500P 16V M X TA26
		C4A8	0CX5600K408	56P 50V J SL TA26
		C4A9	0CN2220F668	2200P 16V M X TA26
		C4B0	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C4B1	0CN2220F668	2200P 16V M X TA26
		C4B2	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C4B3	0CE4766F638	47M SMS 16V M FM5 TP5
		C4B4	0CE4766F638	47M SMS 16V M FM5 TP5
		C4B5	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C4B6	0CN2220F668	2200P 16V M X TA26
		C4B7	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C4B8	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C4B9	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C4C1	0CN2210K518	220P 50V K B TA26
		C4C2	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C4C3	0CE4766F638	47M SMS 16V M FM5 TP5

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C4C5	0CN2230H948	0.022M 25V Z F TA26
		C4C6	0CE4766F638	47M SMS 16V M FM5 TP5
		C4C7	0CQ4731N409	0.047U 100V J POLY TP
		C4C8	0CQ3331N409	0.033U 100V J POLY TP
		C4C9	0CQ3331N409	0.033U 100V J POLY TP
		C4D1	0CN2230H948	0.022M 25V Z F TA26
		C4D2	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C4K0	0CN2230H948	0.022M 25V Z F TA26
		C4K1	0CN1020K518	1000P 50V K B TA26
		C4K2	0CN2710K518	270P 50V K B TA26
		C4K3	0CN1030F678	0.01M 16V M Y TA26
		C4K4	0CN1040K948	0.1M 50V Z F TA26
		C4K5	0CC1000K015	10P 50V C NP0 TS
		C4K6	0CC1000K015	10P 50V C NP0 TS
		C4K7	0CN2230H948	0.022M 25V Z F TA26
		C4K8	0CE4766F638	47M SMS 16V M FM5 TP5
		C4K9	0CE4766F638	47M SMS 16V M FM5 TP5
		C4L1	0CN4710K518	470P 50V K B TA26
		C4L2	0CN1040K948	0.1M 50V Z F TA26
		C4L3	0CN4710K518	470P 50V K B TA26
		C4L4	0CN1040K948	0.1M 50V Z F TA26
		C4L5	0CQ4721N409	0.0047U 100V J POLY TP
		C4L6	0CX1200K408	12P 50V J SL TA26
		C4L7	0CN1030F678	0.01M 16V M Y TA26
		C501	0CN1040K948	0.1M 50V Z F TA26
		C502	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C503	0CN1040K948	0.1M 50V Z F TA26
		C504	0CC1800K415	18P 50V J NP0 TS
		C505	0CC2200K415	22P 50V J NP0 TS
		C506	0CN1030F678	0.01M 16V M Y TA26
		C507	0CN1030F678	0.01M 16V M Y TA26
		C508	0CN1020K518	1000P 50V K B TA26
		C509	0CN1040K948	0.1M 50V Z F TA26
		C510	0CN1030F678	0.01M 16V M Y TA26
		C511	0CN1030F678	0.01M 16V M Y TA26
		C512	0CN1030F678	0.01M 16V M Y TA26
		C513	0CN1020K518	1000P 50V K B TA26
		C514	0CN1040K948	0.1M 50V Z F TA26
		C515	0CN1040K948	0.1M 50V Z F TA26
		C516	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C518	0CN1040K948	0.1M 50V Z F TA26
		C519	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C520	0CN1040K948	0.1M 50V Z F TA26
		C531	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C532	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C533	0CN6820F668	6800P 16V M X TA26
		C534	0CN1020K518	1000P 50V K B TA26
		C535	0CN1040K948	0.1M 50V Z F TA26
		C536	0CN1030F678	0.01M 16V M Y TA26
		C537	0CN1040K948	0.1M 50V Z F TA26
		C538	0CN1040K948	0.1M 50V Z F TA26
		C539	0CN1040K948	0.1M 50V Z F TA26
		C540	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C541	0CN4730K948	0.047M 50V Z F TA26
		C542	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C544	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C545	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C546	0CN1040K948	0.1M 50V Z F TA26
		C547	0CN1040K948	0.1M 50V Z F TA26
		C548	0CN1030F678	0.01M 16V M Y TA26
		C549	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C550	0CN1030F678	0.01M 16V M Y TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C551	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C552	0CN1040K948	0.1M 50V Z F TA26
		C553	0CN1040K948	0.1M 50V Z F TA26
		C554	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C555	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C556	0CN1040K948	0.1M 50V Z F TA26
		C557	0CN6820F668	6800P 16V M X TA26
		C558	0CN1020K518	1000P 50V K B TA26
		C559	0CN1040K948	0.1M 50V Z F TA26
		C560	0CN1030F678	0.01M 16V M Y TA26
		C561	0CK3320K515	3300P 50V K B TS
		C562	0CK3320K515	3300P 50V K B TS
		C563	0CK3320K515	3300P 50V K B TS
		C5A1	0CN1040K948	0.1M 50V Z F TA26
		C601	0CN2230H948	0.022M 25V Z F TA26
		C602	0CN1040K948	0.1M 50V Z F TA26
		C603	0CN1040K948	0.1M 50V Z F TA26
		C604	0CN1040K948	0.1M 50V Z F TA26
		C605	0CN1040K948	0.1M 50V Z F TA26
		C606	0CN1040K948	0.1M 50V Z F TA26
		C607	0CN1040K948	0.1M 50V Z F TA26
		C608	0CN1040K948	0.1M 50V Z F TA26
		C609	0CN1040K948	0.1M 50V Z F TA26
		C610	0CN1040K948	0.1M 50V Z F TA26
		C611	0CN1040K948	0.1M 50V Z F TA26
		C612	0CN1040K948	0.1M 50V Z F TA26
		C613	0CN1040K948	0.1M 50V Z F TA26
		C614	0CN1040K948	0.1M 50V Z F TA26
		C615	0CX1800K408	18P 50V J SL TA26
		C631	0CN1010K518	100P 50V K B TA26
		C632	0CN1020K518	1000P 50V K B TA26
		C633	0CE4753F638	4.7M SRE 16V M FM5 TP(5)
		C634	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C635	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C636	0CN1020K518	1000P 50V K B TA26
		C651	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C701	0CN1030F678	0.01M 16V M Y TA26
		C703	0CN1030F678	0.01M 16V M Y TA26
		C704	0CN1030F678	0.01M 16V M Y TA26
		C705	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C706	0CN1030F678	0.01M 16V M Y TA26
		C707	0CE4766F638	47M SMS 16V M FM5 TP5
		C708	0CX3300K408	33P 50V J SL TA26
		C715	0CE1066F638	10UF SMS 16V M FM5 TP5
		C716	0CQ2231N409	0.022U 100V J POLY TP
		C717	0CN1040K948	0.1M 50V Z F TA26
		C718	0CQ2231N409	0.022U 100V J POLY TP
		C719	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C721	0CE4766F638	47M SMS 16V M FM5 TP5
		C722	0CN1030F678	0.01M 16V M Y TA26
		C723	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C724	0CE2256K638	2.2M SMS 50V M FM5 TP(5)
		C726	0CC0800K115	8P 50V D NP0 TS
		C727	0CX4700K408	47P 50V J SL TA26
		C728	0CX4700K408	47P 50V J SL TA26
		C729	0CE4766F638	47M SMS 16V M FM5 TP5
		C730	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C731	0CQ4731N409	0.047U 100V J POLY TP
		C732	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C734	0CN1040K948	0.1M 50V Z F TA26
		C735	0CN1030F678	0.01M 16V M Y TA26
		C750	0CN1030F678	0.01M 16V M Y TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C751	0CE4766F638	47M SMS 16V M FM5 TP5
		C753	0CQ4731N409	0.047U 100V J POLY TP
		C770	0CN1040K948	0.1M 50V Z F TA26
		C771	0CQ1231N409	0.012U 100V J POLY TP
		C772	0CX2400K408	24P 50V J SL TA26
		C773	0CN1010K518	100P 50V K B TA26
		C774	0CN1010K518	100P 50V K B TA26
		C801	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C802	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C803	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C804	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C806	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C807	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C808	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C809	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C810	0CN1030F678	0.01M 16V M Y TA26
		C811	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C812	0CN1030F678	0.01M 16V M Y TA26
		C813	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C814	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C815	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C816	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C817	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C818	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C819	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C820	0CE4775C638	470M SR 6.3V M FM5 TP(5)
		C821	0CN1020K518	1000P 50V K B TA26
		C822	0CN1020K518	1000P 50V K B TA26
		C823	0CN1030F678	0.01M 16V M Y TA26
		C824	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C825	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C826	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C827	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C828	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C829	0CN1020K518	1000P 50V K B TA26
		C830	0CN1020K518	1000P 50V K B TA26
		C832	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C833	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C834	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C835	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C836	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C837	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C838	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C839	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C840	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C841	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C842	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C843	0CN1030F678	0.01M 16V M Y TA26
		C844	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C845	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C846	0CQ1021N409	0.001U 100V J POLY TP
		C847	0CQ1031N409	0.01U 100V J POLY TP
		C848	0CQ3321N409	0.0033U 100V J POLY TP
		C849	0CQ6831N409	0.068U 100V J POLY TP
		C850	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C851	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C852	0CN1010K518	100P 50V K B TA26
		C853	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C854	0CQ4721N409	0.0047U 100V J POLY TP
		C855	0CQ3331N409	0.033U 100V J POLY TP
		C856	0CN1040K948	0.1M 50V Z F TA26
		C857	0CN4710K518	470P 50V K B TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C858	0CN1020K518	1000P 50V K B TA26
		C859	0CN4710K518	470P 50V K B TA26
		C860	0CN1020K518	1000P 50V K B TA26
		C861	0CN1020K518	1000P 50V K B TA26
		C862	0CN1040K948	0.1M 50V Z F TA26
		C870	0CX6800K408	68P 50V J SL TA26
		C871	0CX6800K408	68P 50V J SL TA26
		C872	0CX6800K408	68P 50V J SL TA26
		C8A0	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A1	0CN1010K518	100P 50V K B TA26
		C8A2	0CE4776F638	470UF SMS 16V M FM5 TP5
		C8A3	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A4	0CC1210K415	120PF 50V 5 CH FM(5MM)
		C8A5	0CC1510K415	150P 50V J NP0 TS
		C8A6	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A7	0CN1030F678	0.01M 16V M Y TA26
		C8A8	0CE1074F638	100U SRA 16V M FM5 TP(5)
		C8A9	0CX3900K408	39P 50V J SL TA26
		C8B1	0CN1030F678	0.01M 16V M Y TA26
		C8B2	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C8B3	0CC1200K415	12P 50V J NP0 TS
		C8B4	0CC3300K415	33P 50V J NP0 TP
		C8C1	0CN1040K948	0.1M 50V Z F TA26
		C901	0CN2230H948	0.022M 25V Z F TA26
		C902	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C903	0CX3900K408	39P 50V J SL TA26
		C904	0CX3900K408	39P 50V J SL TA26
		C905	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C906	0CN2230H948	0.022M 25V Z F TA26
		C907	0CN2230H948	0.022M 25V Z F TA26
		C908	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C909	0CX3900K408	39P 50V J SL TA26
		C910	0CX3900K408	39P 50V J SL TA26
		C911	0CE2244K638	0.22M SRA 50V M FM5 TP(5)
		C912	0CN2230H948	0.022M 25V Z F TA26
		C913	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C914	0CN1030F678	0.01M 16V M Y TA26
		C915	0CX3300K408	33P 50V J SL TA26
		C916	0CN2230H948	0.022M 25V Z F TA26
		C917	0CN1030F678	0.01M 16V M Y TA26
		C918	0CN1030F678	0.01M 16V M Y TA26
		C919	0CE1044K638	0.1M SRA 50V M FM5 TP(5)
		C920	0CN1030F678	0.01M 16V M Y TA26
		C921	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C922	0CN3310K518	330P 50V K B TA26
		C923	0CN1030F678	0.01M 16V M Y TA26
		C924	0CC0400K015	4P 50V C NP0 TS
		C925	0CN1030F678	0.01M 16V M Y TA26
		C926	0CN1030F678	0.01M 16V M Y TA26
		C927	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C928	0CX2700K408	27P 50V J SL TA26
		C929	0CN1030F678	0.01M 16V M Y TA26
		C930	0CN8200K518	82PF 50V K B TA26
		C932	0CN3310K518	330P 50V K B TA26
		C933	0CC0300K015	3P 50V C NP0 TS

DIODE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		D001	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D101	0DD400300DA	RECT.1N4003(KARIBONG)
		D102	0DD400300DA	RECT.1N4003(KARIBONG)
		D103	0DD400300DA	RECT.1N4003(KARIBONG)
		D105	0DD402000AC	BRIDGE RBA-402 SANKEN

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		D106	0DD402000AC	BRIDGE RBA-402 SANKEN
		D107	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D108	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D201	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D202	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D203	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D204	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D205	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D206	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D207	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D208	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D209	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D210	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D211	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D212	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D213	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D301	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D302	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D303	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D305	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A1	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A2	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A3	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A4	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A5	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A6	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A8	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D3A9	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D401	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D402	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D403	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D404	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D501	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D502	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D503	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D505	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D506	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D521	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D522	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D601	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D602	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D603	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D604	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D8A2	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM
		D901	0DD131009AA	1SS131 DETECT,SW(26MM)TP ROHM

DISPLAY TUBE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		DG601	514-031A	13BT-133GK DD1 FUTABA

DELAY LINE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		DL301	617-011A	MS-31PC (KSS)
		FL3A1	617-011A	MS-31PC (KSS)

FUSE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		F101	585-011A	T 500MA 250V S504
		F102	585-011H	T 2.5A, 250V S506
		F103	585-011H	T 2.5A, 250V S506

FILTER

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
*		FL101	616-004B	LINE 801-302-FD(BUJEON)
		FL301	616-064B	L/C LPF1.5-1B(YL-0170A)S/S
		FL302	616-053A	HPF 1.4MHZ (DAE SHIN)
		FL3A2	616-234A	A285TCHS-K5305 CAN-COIL
		FL3A3	616-234B	A285TCHS-K5306 DD1P K-TOKO
		FL3A5	616-126G	L/C BPF CB0067 4.43BPF S/S
		FL401	616-069C	LPF 12KHZ(JH-1058) SAMMI
		FL4A1	616-835B	L/C CBP 1.5 S/S
		Z301	616-323A	SFE4.25MBF (MURATA)
		Z701	616-099B	SAW 0FWG1962 (SIEMENS) B/G
		Z703	616-036B	TRAP TPS5.5MB MURA
		Z705	616-038B	CERAMIC,SFE5.5MB MURA
		Z706	616-714A	MKT40MA100P MURATA

IC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		IC001	0IHI118019A	HA118019NT(PRE-AMP 4HD)
		IC101	0ISA514270A	STK51427(PWR REG HYBRID)
		IC102	0IMA780600A	AN7806 6V1AREG MATSUSHITA
		IC103	0IMA781200A	AN7812(12V REGIA) MATSUSHI
		IC104	0IMA781200A	AN7812(12V REGIA) MATSUSHI
		IC201	0IMI381840G	M38184MA-111FP(SY+TI)
		IC202	0IHI497560A	HD49756NT(SERVO)
		IC203	0IGS744500A	GL7445 (MOTOR DRIV-1CH) GSS
		IC204	0IXI240200B	X24C02.8D EEP-ROM(2K CMOS)
		IC205	0IMT523000B	PST-523G/T(3.3V) LOW
		IC206	0IRH704800A	BA7048N(ENVLOPE-DETECT)
		IC301	0ISA739000A	LA7390(PAL,Y/C1CHIP)
		IC303	0IRH702500A	BA7025L PAL/MESECAM SYNC DETEC
		IC304	0IKK740300B	MSM7403RS(2H CCD) DIP-PACK
		IC3A1	0IHI118172A	HA118172F(Y/C 8MM)HARD TRAY
		IC3A2	0IKK740300A	MSM7403MS(2H CCD)FLAT KINSEKI
		IC3A3	0ISO120300A	CXA1203M(8MM PAL JOG)SOP-24P-L
		IC401	0IRH779000A	BA7790LS(AUDIO NORMAL)
	OR	IC402	0IGS381600A	GL3816
		IC402	0ISA701600A	LA7016 ANALOG SW
		IC403	0ISA722200A	LA7222 (1280 AUDIO)
		IC4A1	0ISA745400A	LA7454W(FM AUDIO 8MM)HARD TRAY
		IC4K1	0IEX108230A	XR-10823(ATF)QFP32
	OR	IC501	0ISO807240D	CXP80724-191Q(SOFT SER 24K)
		IC501	0ISO807240F	CXP80724-196Q(8MMSY+SER)
		IC502	0IMT523000C	PST-523D/T
		IC503	0ISA183600A	LB1836M(LOAD DRIV) TAPE&REEL
		IC504	0IGS358000C	GL358D(OP-AMP)
		IC505	0ISO112700A	CXA1127M-T6 CAP-M DRIV 30SOP
		IC506	0ISO151200A	CXA1512M
		IC507	0IGS740600A	GL7406 (MOTOR DRIV) TAPING
		IC601	0IRH152180B	BA15218(HEAD-PHONE AMP)DIP
		IC602	0INE163110A	UPD16311GC-AB6 FIP DRIV 52PQFP
		IC701	0IPH980200A	TDA9802(VIF PAL+SECAM-L)
		IC801	0ISA795400A	LA7954 9S SWITCHING
		IC802	0ISA722200A	LA7222 (1280 AUDIO)
		IC803	0ISA795400A	LA7954 9S SWITCHING
		IC804	0ISA722200A	LA7222 (1280 AUDIO)
		IC805	0IJR224500A	NJM2245S(A/V S/W 6DB) 9SIP
		IC806	0IJR224900A	NJM2249L S/W (8 PIN SIP)
		IC807	0IPH470000A	SAA4700 VPS DECODER
		IC808	0IJR222900A	NJM2229S SYNC SEPA (SIP PACK)
		IC8A1	0IMI350100E	M35010-094SP(OSD Q40W)RUSSIAN
		IC901	0IHI118019A	HA118019NT(PRE-AMP 4HD)

JACK

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		JK601	572-059D	JPJ1022-01-840

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		JK602	572-059C	JPJ1022-01-830
		JK603	572-055A	MIC HSJ1406-01-010

COIL

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		L001	0LR1000K035	100M K 6X6 L5 TP
		L002	0LA0471K018	4.7M K 2.3X3.4 L5 TP
		L003	0LR3300K035	330M K 6X6 L5 TP
		L004	0LR8200K035	820M K 6X6 L5 TP
		L005	0LA0332K018	33M K 2.3X3.4 L5 TP
		L006	0LR1800K035	180M K 6X6 L5 TP
		L007	0LR1000K035	100M K 6X6 L5 TP
		L008	0LR1000K035	100M K 6X6 L5 TP
		L201	0LR1000K035	100M K 6X6 L5 TP
		L202	0LR1000K035	100M K 6X6 L5 TP
		L203	0LR1000K035	100M K 6X6 L5 TP
		L204	0LR1000K035	100M K 6X6 L5 TP
		L205	0LR1000K035	100M K 6X6 L5 TP
		L206	0LA1000K018	100M K 2.3X3.4 L5 TP
		L291	0LR1000K035	100M K 6X6 L5 TP
		L292	0LA0472K018	47M K 2.3X3.4 L5 TP
		L2B1	0LA0102K018	10M K 2.3X3.4 L5 TP
		L2B2	0LA1000K018	100M K 2.3X3.4 L5 TP
		L301	0LR1000K035	100M K 6X6 L5 TP
		L302	0LR1000K035	100M K 6X6 L5 TP
		L303	0LR0472K035	47M K 6X6 L5 TP
		L304	0LR0272K035	27M K 6X6 L5 TP
		L305	0LA0152K018	15M K 2.3X3.4 L5 TP
		L306	0LA0332K018	33M K 2.3X3.4 L5 TP
		L307	0LA0471K018	4.7M K 2.3X3.4 L5 TP
		L308	0LR1000K035	100M K 6X6 L5 TP
		L309	0LR1000K035	100M K 6X6 L5 TP
		L310	0LR1000K035	100M K 6X6 L5 TP
		L311	0LR1000K035	100M K 6X6 L5 TP
		L312	0LA0332K018	33M K 2.3X3.4 L5 TP
		L313	0LA0472K018	47M K 2.3X3.4 L5 TP
		L314	0LR8200K035	820M K 6X6 L5 TP
		L315	0LA0472K018	47M K 2.3X3.4 L5 TP
		L317	0LR1000K035	100M K 6X6 L5 TP
		L318	0LR1000K035	100M K 6X6 L5 TP
		L322	0LA0681K018	6.8M K 2.3X3.4 L5 TP
		L323	0LR1000K035	100M K 6X6 L5 TP
		L324	637-013B	PECK 6.80MH-J NYE
		L325	0LA0122K018	12M K 2.3X3.4 L5 TP
		L326	0LA0181K018	1.8M K 2.3X3.4 L5 TP
		L327	0LA0332K018	33M K 2.3X3.4 L5 TP
		L3A0	0LR1000K035	100M K 6X6 L5 TP
		L3A1	0LR1000K035	100M K 6X6 L5 TP
		L3A2	0LA0472K018	47M K 2.3X3.4 L5 TP
		L3A3	0LR1000K035	100M K 6X6 L5 TP
		L3A4	0LR0332K035	33M K 6X6 L5 TP
		L3A5	0LA1800K018	180M K 2.3X3.4 L5 TP
		L3A7	0LA0102K018	10M K 2.3X3.4 L5 TP
		L3A8	0LR1000K035	100M K 6X6 L5 TP
		L3B1	0LA0682K018	68M K 2.3X3.4 L5 TP
		L3B3	0LA0152K018	15M K 2.3X3.4 L5 TP
		L3B5	0LR1000K035	100M K 6X6 L5 TP
		L3B6	0LR1000K035	100M K 6X6 L5 TP
		L3C1	0LR1000K035	100M K 6X6 L5 TP
		L3C2	0LA0222K018	22M K 2.3X3.4 L5 TP
		L401	0LR1502J045	0.015H J 6X7 L5 TP
		L402	0LR1000K035	100M K 6X6 L5 TP
		L403	0LR1000K035	100M K 6X6 L5 TP

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		L404	0LR1000K035	100M K 6X6 L5 TP
		L405	0LA0152K018	15M K 2.3X3.4 L5 TP
		L4A1	0LR1000K035	100M K 6X6 L5 TP
		L4A2	0LA0562K018	56M K 2.3X3.4 L5 TP
		L4A3	0LA1200K018	120M K 2.3X3.4 L5 TP
		L4A4	0LR1000K035	100M K 6X6 L5 TP
		L4A5	0LR1000K035	100M K 6X6 L5 TP
		L4K1	0LA1800K018	180M K 2.3X3.4 L5 TP
		L4K2	0LR1000K035	100M K 6X6 L5 TP
		L4K3	0LR1000K035	100M K 6X6 L5 TP
		L501	0LR1000K035	100M K 6X6 L5 TP
		L502	0LR1000K035	100M K 6X6 L5 TP
		L503	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L504	0LR1000K035	100M K 6X6 L5 TP
		L505	0LR1000K035	100M K 6X6 L5 TP
		L506	0LR1000K035	100M K 6X6 L5 TP
		L507	0LR1000K035	100M K 6X6 L5 TP
		L508	0LR1000K035	100M K 6X6 L5 TP
		L521	0LA0102K018	10M K 2.3X3.4 L5 TP
		L601	0LA1000K018	100M K 2.3X3.4 L5 TP
		L602	0LA1000K018	100M K 2.3X3.4 L5 TP
		L631	0LA1000K018	100M K 2.3X3.4 L5 TP
		L701	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L702	0LR1000K035	100M K 6X6 L5 TP
		L703	0LA0222K018	22M K 2.3X3.4 L5 TP
		L707	0LR1000K035	100M K 6X6 L5 TP
		L708	0LA0102K018	10M K 2.3X3.4 L5 TP
		L709	0LA0152K018	15M K 2.3X3.4 L5 TP
		L710	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L711	0LR0121K035	1.2M K 6X6 L5 TP
		L712	0LA1000K018	100M K 2.3X3.4 L5 TP
		L713	0LA1000K018	100M K 2.3X3.4 L5 TP
		L720	0LR1000K035	100M K 6X6 L5 TP
		L802	0LA1000K018	100M K 2.3X3.4 L5 TP
		L803	0LA1000K018	100M K 2.3X3.4 L5 TP
		L804	0LR1000K035	100M K 6X6 L5 TP
		L805	0LA1000K018	100M K 2.3X3.4 L5 TP
		L806	0LA1000K018	100M K 2.3X3.4 L5 TP
		L807	0LA1000K018	100M K 2.3X3.4 L5 TP
		L808	0LA1000K018	100M K 2.3X3.4 L5 TP
		L809	0LA1000K018	100M K 2.3X3.4 L5 TP
		L810	0LA1000K018	100M K 2.3X3.4 L5 TP
		L811	0LR1000K035	100M K 6X6 L5 TP
		L8A1	0LA0561K018	5.6M K 2.3X3.4 L5 TP
		L8A2	0LR1000K035	100M K 6X6 L5 TP
		L8A3	0LA0332K018	33M K 2.3X3.4 L5 TP
		L901	0LR1000K035	100M K 6X6 L5 TP
		L902	0LR1000K035	100M K 6X6 L5 TP
		L903	0LR1000K035	100M K 6X6 L5 TP
		L904	0LA0122K018	12M K 2.3X3.4 L5 TP
		L905	0LA0272K018	27M K 2.3X3.4 L5 TP
		L906	0LA0472K018	47M K 2.3X3.4 L5 TP
		L907	0LA0102K018	10M K 2.3X3.4 L5 TP
		L908	0LA1800K018	180M K 2.3X3.4 L5 TP
		T401	633-032C	BIAS-OSC(MISUMI) 70KHZ
		T402	633-032C	BIAS-OSC(MISUMI) 70KHZ
		T701	633-085A	V-COIL 2920N-K5592Z 77.8 TOKO
		W777	0LA1000K018	100M K 2.3X3.4 L5 TP

LED

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		LED601	0DL112000AK	DL-11S2GNS(SUPPER,GREEN,03)KOC
		LED621	0DL112000AK	DL-11S2GNS(SUPPER,GREEN,03)KOC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		MODULATOR		
		MD701	592-808A	MCB8-UG3630 PAL B/G WO ATT
		CIRCUIT BOARD ASSEMBLY		
		PBIO0	515-866P	I/O BOARD
		PBJT0	515-908B	JUNCTION 2 (G/S)
		PBM00	515-864P	MAIN (C+,VCR+)
		PBP01	515-868S	POWER1
		PBP02	515-869S	POWER2
		PBP03	515-870S	POWER3
		PBT00	515-912S	VHS KEY & TIMER
		TRANSFORMER		
*		PT101	641-340B	230V/240V/50HZ
		TRANSISTOR		
		Q001	0TR126709AC	KTA1267-GR MINI TP KEC
		Q003	0TR319909AE	KTC3199-GR MINI TP KEC
		Q009	0TR126709AC	KTA1267-GR MINI TP KEC
		Q010	0TR319909AE	KTC3199-GR MINI TP KEC
		Q011	0TR319909AE	KTC3199-GR MINI TP KEC
		Q101	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q102	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q103	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q201	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q202	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q203	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q204	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q205	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q206	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q207	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q208	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q209	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q210	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q211	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q212	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q213	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q214	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q251	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q252	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q291	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q292	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q293	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q2M1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q301	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q302	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q303	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q304	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q305	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q306	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q307	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q308	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q309	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q310	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q311	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q312	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q313	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q314	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q315	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q316	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q321	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q322	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q323	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q324	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q325	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q3A0	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3A1	0TR319909AE	KTC3199-GR MINI TP KEC
		Q3A3	0TR319909AE	KTC3199-GR MINI TP KEC
		Q3A7	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3A8	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q3A9	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q3B1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B2	0TR966009AA	KTA966A-Y=KTA1273Y TP KEC
		Q3B3	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B4	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B5	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q3B6	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B7	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B8	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q3B9	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q401	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q402	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q403	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q404	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q405	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q406	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q407	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q408	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q409	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q410	0TR320509AB	KTC3205-TP-Y (KTC2236A)KEC
		Q411	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q420	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q4A1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q4A2	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q4K1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q503	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q504	0TR223609AB	KTC2236A-Y=KTC3205Y TP KEC
		Q505	0TR205800AA	KTD2058-0 KEC
		Q506	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q507	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q508	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q509	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q510	0TR205800AA	KTD2058-0 KEC
		Q601	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q602	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q701	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q702	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q708	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q709	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q801	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q802	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q803	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q804	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q805	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q806	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q807	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q810	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q811	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q812	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q813	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A1	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		Q8A2	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A3	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A4	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q8A5	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q8A6	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q8A7	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q8A8	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q901	0TR126609AE	KTA1266-GR,TP(KTA1015),KEC
		Q902	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q903	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q904	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q905	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q906	0TR103009AE	KRC103M-TP (KRC1203) KEC
RESISTOR				
		R001	0RD0822F608	82 1/6W 5 TA26
		R002	0RD0562F608	56 1/6W 5 TA26
		R003	0RD0562F608	56 1/6W 5 TA26
		R005	0RD1001F608	1.0K 1/6W 5 TA26
		R007	0RD1001F608	1.0K 1/6W 5 TA26
		R008	0RD2200F608	220 1/6W 5 TA26
		R009	0RD2201F608	2.2K 1/6W 5 TA26
		R010	0RD1201F608	1.2K 1/6W 5 TA26
		R011	0RD6800F608	680 1/6W 5 TA26
		R012	0RD4704F608	4.7M 1/6W 5 TA26
		R028	0RD1002F608	10K 1/6W 5 TA26
		R029	0RD3903F608	390K 1/6W 5 TA26
		R030	0RD1002F608	10K 1/6W 5 TA26
		R031	0RD1002F608	10K 1/6W 5 TA26
		R032	0RD2200F608	220 1/6W 5 TA26
		R033	0RD2202F608	22K 1/6W 5 TA26
		R034	0RD2202F608	22K 1/6W 5 TA26
		R035	0RD4700F608	470 1/6W 5 TA26
		R036	0RD4700F608	470 1/6W 5 TA26
		R037	0RD6800F608	680 1/6W 5 TA26
		R038	0RD2702F608	27K 1/6W 5 TA26
		R039	0RD1202F608	12K 1/6W 5 TA26
		R040	0RD1001F608	1.0K 1/6W 5 TA26
		R041	0RD2201F608	2.2K 1/6W 5 TA26
		R042	0RD1001F608	1.0K 1/6W 5 TA26
		R0AA	0RD2201F608	2.2K 1/6W 5 TA26
		R101	0RD1001F608	1.0K 1/6W 5 TA26
		R102	0RD1001F608	1.0K 1/6W 5 TA26
		R103	0RD5601F608	5.6K 1/6W 5 TA26
		R104	0RD1502F608	15K 1/6W 5 TA26
		R105	0RD1003F608	100K 1/6W 5 TA26
		R106	0RD8201F608	8.2K 1/6W 5 TA26
		R107	0RD1002F608	10K 1/6W 5 TA26
		R108	0RD2201F608	2.2K 1/6W 5 TA26
		R109	0RD1001F608	1.0K 1/6W 5 TA26
		R112	0RD0101F608	1.0 1/6W 5 TA26
		R113	0RD0101F608	1.0 1/6W 5 TA26
		R114	0RD5600F608	560 1/6W 5 TA26
		R115	0RD2201F608	2.2K 1/6W 5 TA26
		R116	0RD4702F608	47K 1/6W 5 TA26
		R201	0RD2201F608	2.2K 1/6W 5 TA26
		R203	0RD4701F608	4.7K 1/6W 5 TA26
		R204	0RD8202F608	82K 1/6W 5 TA26
		R205	0RD6802F608	68K 1/6W 5 TA26
		R206	0RD1502F608	15K 1/6W 5 TA26
		R207	0RD3301F608	3.3K 1/6W 5 TA26
		R208	0RD1501F608	1.5K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R209	0RD1203F608	120K 1/6W 5 TA26
		R210	0RD1002F608	10K 1/6W 5 TA26
		R211	0RD3302F608	33K 1/6W 5 TA26
		R212	0RD1002F608	10K 1/6W 5 TA26
		R213	0RD3901F608	3.9K 1/6W 5 TA26
		R214	0RD2703F608	270K 1/6W 5 TA26
		R215	0RD6802F608	68K 1/6W 5 TA26
		R216	0RD2702F608	27K 1/6W 5 TA26
		R218	0RD6801F608	6.8K 1/6W 5 TA26
		R219	0RD8203F608	820K 1/6W 5 TA26
		R220	0RD5603F608	560K 1/6W 5 TA26
		R221	0RD8201F608	8.2K 1/6W 5 TA26
		R222	0RD1501F608	1.5K 1/6W 5 TA26
		R223	0RD2701F608	2.7K 1/6W 5 TA26
		R224	0RD6803F608	680K 1/6W 5 TA26
		R225	0RD2702F608	27K 1/6W 5 TA26
		R226	0RD4702F608	47K 1/6W 5 TA26
		R227	0RD4701F608	4.7K 1/6W 5 TA26
		R228	0RD1003F608	100K 1/6W 5 TA26
		R229	0RD1002F608	10K 1/6W 5 TA26
		R230	0RD2701F608	2.7K 1/6W 5 TA26
		R231	0RD3902F608	39K 1/6W 5 TA26
		R232	0RD2201F608	2.2K 1/6W 5 TA26
		R233	0RD1002F608	10K 1/6W 5 TA26
		R234	0RD0101F608	1.0 1/6W 5 TA26
		R235	0RD0101F608	1.0 1/6W 5 TA26
		R236	0RD8201F608	8.2K 1/6W 5 TA26
		R237	0RD1003F608	100K 1/6W 5 TA26
		R238	0RD8202F608	82K 1/6W 5 TA26
		R239	0RD5602F608	56K 1/6W 5 TA26
		R240	0RD4702F608	47K 1/6W 5 TA26
		R241	0RD5601F608	5.6K 1/6W 5 TA26
		R242	0RD4700F608	470 1/6W 5 TA26
		R243	0RD5601F608	5.6K 1/6W 5 TA26
		R244	0RD4700F608	470 1/6W 5 TA26
		R245	0RD1001F608	1.0K 1/6W 5 TA26
		R246	0RD6803F608	680K 1/6W 5 TA26
		R247	0RD1202F608	12K 1/6W 5 TA26
		R248	0RD1001F608	1.0K 1/6W 5 TA26
		R250	0RD6802F608	68K 1/6W 5 TA26
		R251	0RD6802F608	68K 1/6W 5 TA26
		R253	0RD6802F608	68K 1/6W 5 TA26
		R254	0RD4701F608	4.7K 1/6W 5 TA26
		R255	0RD4701F608	4.7K 1/6W 5 TA26
		R256	0RD4701F608	4.7K 1/6W 5 TA26
		R258	0RD3301F608	3.3K 1/6W 5 TA26
		R259	0RD2201F608	2.2K 1/6W 5 TA26
		R260	0RD1002F608	10K 1/6W 5 TA26
		R261	0RD1002F608	10K 1/6W 5 TA26
		R262	0RD4701F608	4.7K 1/6W 5 TA26
		R263	0RD4701F608	4.7K 1/6W 5 TA26
		R264	0RD4701F608	4.7K 1/6W 5 TA26
		R265	0RD2702F608	27K 1/6W 5 TA26
		R266	0RD2702F608	27K 1/6W 5 TA26
		R267	0RD1003F608	100K 1/6W 5 TA26
		R268	0RD3302F608	33K 1/6W 5 TA26
		R269	0RD3302F608	33K 1/6W 5 TA26
		R270	0RD4701F608	4.7K 1/6W 5 TA26
		R271	0RD4701F608	4.7K 1/6W 5 TA26
		R272	0RD4701F608	4.7K 1/6W 5 TA26
		R273	0RD1002F608	10K 1/6W 5 TA26
		R274	0RD4704F608	4.7M 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R275	0RD1003F608	100K 1/6W 5 TA26
		R276	0RD1004F608	1.0M 1/6W 5 TA26
		R290	0RD4701F608	4.7K 1/6W 5 TA26
		R291	0RD4701F608	4.7K 1/6W 5 TA26
		R292	0RD4701F608	4.7K 1/6W 5 TA26
		R293	0RD3301F608	3.3K 1/6W 5 TA26
		R294	0RD1001F608	1.0K 1/6W 5 TA26
		R295	0RD2702F608	27K 1/6W 5 TA26
		R296	0RD1001F608	1.0K 1/6W 5 TA26
		R297	0RD2203F608	220K 1/6W 5 TA26
		R298	0RD4701F608	4.7K 1/6W 5 TA26
		R2A1	0RD1502F608	15K 1/6W 5 TA26
		R2A2	0RD1202F608	12K 1/6W 5 TA26
		R2B1	0RD1002F608	10K 1/6W 5 TA26
		R2B2	0RD2201F608	2.2K 1/6W 5 TA26
		R2M2	0RD2201F608	2.2K 1/6W 5 TA26
		R2M3	0RD2201F608	2.2K 1/6W 5 TA26
		R303	0RD4701F608	4.7K 1/6W 5 TA26
		R304	0RD1002F608	10K 1/6W 5 TA26
		R305	0RD3302F608	33K 1/6W 5 TA26
		R306	0RD1202F608	12K 1/6W 5 TA26
		R307	0RD1202F608	12K 1/6W 5 TA26
		R308	0RD2201F608	2.2K 1/6W 5 TA26
		R309	0RD1001F608	1.0K 1/6W 5 TA26
		R310	0RD1001F608	1.0K 1/6W 5 TA26
		R311	0RD1201F608	1.2K 1/6W 5 TA26
		R312	0RD6801F608	6.8K 1/6W 5 TA26
		R313	0RD5601F608	5.6K 1/6W 5 TA26
		R314	0RD6800F608	680 1/6W 5 TA26
		R315	0RD2202F608	22K 1/6W 5 TA26
		R316	0RD2700F608	270 1/6W 5 TA26
		R317	0RD1201F608	1.2K 1/6W 5 TA26
		R318	0RD6801F608	6.8K 1/6W 5 TA26
		R319	0RD3301F608	3.3K 1/6W 5 TA26
		R320	0RD4701F608	4.7K 1/6W 5 TA26
		R321	0RD1501F608	1.5K 1/6W 5 TA26
		R322	0RD2201F608	2.2K 1/6W 5 TA26
		R323	0RD1001F608	1.0K 1/6W 5 TA26
		R324	0RD2701F608	2.7K 1/6W 5 TA26
		R325	0RD6800F608	680 1/6W 5 TA26
		R326	0RD1001F608	1.0K 1/6W 5 TA26
		R327	0RD2201F608	2.2K 1/6W 5 TA26
		R328	0RD5600F608	560 1/6W 5 TA26
		R329	0RD1004F608	1.0M 1/6W 5 TA26
		R330	0RD8201F608	8.2K 1/6W 5 TA26
		R332	0RD1002F608	10K 1/6W 5 TA26
		R333	0RD2202F608	22K 1/6W 5 TA26
		R334	0RD1001F608	1.0K 1/6W 5 TA26
		R335	0RD1001F608	1.0K 1/6W 5 TA26
		R336	0RD2702F608	27K 1/6W 5 TA26
		R337	0RD1202F608	12K 1/6W 5 TA26
		R338	0RD2201F608	2.2K 1/6W 5 TA26
		R339	0RD3901F608	3.9K 1/6W 5 TA26
		R340	0RD1001F608	1.0K 1/6W 5 TA26
		R341	0RD1002F608	10K 1/6W 5 TA26
		R342	0RD4701F608	4.7K 1/6W 5 TA26
		R343	0RD2201F608	2.2K 1/6W 5 TA26
		R344	0RD1501F608	1.5K 1/6W 5 TA26
		R345	0RD1001F608	1.0K 1/6W 5 TA26
		R346	0RD1001F608	1.0K 1/6W 5 TA26
		R347	0RD1002F608	10K 1/6W 5 TA26
		R348	0RD1802F608	18K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R349	0RD4701F608	4.7K 1/6W 5 TA26
		R350	0RD1201F608	1.2K 1/6W 5 TA26
		R351	0RD5600F608	560 1/6W 5 TA26
		R352	0RD3300F608	330 1/6W 5 TA26
		R353	0RD8200F608	820 1/6W 5 TA26
		R355	0RD2701F608	2.7K 1/6W 5 TA26
		R356	0RD5602F608	56K 1/6W 5 TA26
		R357	0RD1002F608	10K 1/6W 5 TA26
		R359	0RD1002F608	10K 1/6W 5 TA26
		R360	0RD1002F608	10K 1/6W 5 TA26
		R361	0RD1001F608	1.0K 1/6W 5 TA26
		R362	0RD1001F608	1.0K 1/6W 5 TA26
		R363	0RD1001F608	1.0K 1/6W 5 TA26
		R364	0RD1201F608	1.2K 1/6W 5 TA26
		R365	0RD2701F608	2.7K 1/6W 5 TA26
		R366	0RD1202F608	12K 1/6W 5 TA26
		R367	0RD4702F608	47K 1/6W 5 TA26
		R368	0RD1200F608	120 1/6W 5 TA26
		R369	0RD8200F608	820 1/6W 5 TA26
		R370	0RD1000F608	100 1/6W 5 TA26
		R372	0RD5601F608	5.6K 1/6W 5 TA26
		R373	0RD0272F608	27 1/6W 5 TA26
		R374	0RD2201F608	2.2K 1/6W 5 TA26
		R375	0RD1503F608	150K 1/6W 5 TA26
		R376	0RD1001F608	1.0K 1/6W 5 TA26
		R377	0RD2202F608	22K 1/6W 5 TA26
		R378	0RD1001F608	1.0K 1/6W 5 TA26
		R399	0RD8200F608	820 1/6W 5 TA26
		R3A0	0RD1502F608	15K 1/6W 5 TA26
		R3A1	0RD1202F608	12K 1/6W 5 TA26
		R3A2	0RD1002F608	10K 1/6W 5 TA26
		R3A3	0RD5600F608	560 1/6W 5 TA26
		R3A4	0RD2700F608	270 1/6W 5 TA26
		R3A5	0RD4701F608	4.7K 1/6W 5 TA26
		R3A6	0RD5600F608	560 1/6W 5 TA26
		R3A7	0RD2201F608	2.2K 1/6W 5 TA26
		R3A8	0RD1001F608	1.0K 1/6W 5 TA26
		R3A9	0RD2702F608	27K 1/6W 5 TA26
		R3B0	0RD6802F608	68K 1/6W 5 TA26
		R3B1	0RD4700F608	470 1/6W 5 TA26
		R3B2	0RD1802F608	18K 1/6W 5 TA26
		R3B3	0RD1802F608	18K 1/6W 5 TA26
		R3B4	0RD4701F608	4.7K 1/6W 5 TA26
		R3B5	0RD1501F608	1.5K 1/6W 5 TA26
		R3B6	0RD1001F608	1.0K 1/6W 5 TA26
		R3B7	0RD1001F608	1.0K 1/6W 5 TA26
		R3B8	0RD1001F608	1.0K 1/6W 5 TA26
		R3B9	0RD6802F608	68K 1/6W 5 TA26
		R3C0	0RD2700F608	270 1/6W 5 TA26
		R3C2	0RD3302F608	33K 1/6W 5 TA26
		R3C3	0RD6802F608	68K 1/6W 5 TA26
		R3C4	0RD1001F608	1.0K 1/6W 5 TA26
		R3C5	0RD2700F608	270 1/6W 5 TA26
		R3C6	0RD1004F608	1.0M 1/6W 5 TA26
		R3C7	0RD4700F608	470 1/6W 5 TA26
		R3C8	0RD1001F608	1.0K 1/6W 5 TA26
		R3D0	0RD1201F608	1.2K 1/6W 5 TA26
		R3D1	0RD3902F608	39K 1/6W 5 TA26
		R3D2	0RD1802F608	18K 1/6W 5 TA26
		R3D4	0RD4701F608	4.7K 1/6W 5 TA26
		R3D5	0RD4701F608	4.7K 1/6W 5 TA26
		R3D7	0RD2201F608	2.2K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R3D9	0RD6801F608	6.8K 1/6W 5 TA26
		R3E0	0RD1002F608	10K 1/6W 5 TA26
		R3E1	0RD8200F608	820 1/6W 5 TA26
		R3E2	0RD2700F608	270 1/6W 5 TA26
		R3E3	0RD3301F608	3.3K 1/6W 5 TA26
		R3E4	0RD1801F608	1.8K 1/6W 5 TA26
		R3E5	0RD4700F608	470 1/6W 5 TA26
		R3E6	0RD4700F608	470 1/6W 5 TA26
		R3E7	0RD1200F608	120 1/6W 5 TA26
		R3E8	0RD5600F608	560 1/6W 5 TA26
		R3E9	0RD1002F608	10K 1/6W 5 TA26
		R3F1	0RD3302F608	33K 1/6W 5 TA26
		R3F2	0RD4701F608	4.7K 1/6W 5 TA26
		R3F3	0RD1003F608	100K 1/6W 5 TA26
		R3F4	0RD2201F608	2.2K 1/6W 5 TA26
		R3F5	0RD2203F608	220K 1/6W 5 TA26
		R3F6	0RD4703F608	470K 1/6W 5 TA26
		R3F7	0RD1003F608	100K 1/6W 5 TA26
		R3F8	0RD1003F608	100K 1/6W 5 TA26
		R3F9	0RD2202F608	22K 1/6W 5 TA26
		R3G1	0RD2201F608	2.2K 1/6W 5 TA26
		R3G2	0RD2201F608	2.2K 1/6W 5 TA26
		R3G3	0RD4701F608	4.7K 1/6W 5 TA26
		R3H1	0RD1002F608	10K 1/6W 5 TA26
		R3H2	0RD1002F608	10K 1/6W 5 TA26
		R3J0	0RD1001F608	1.0K 1/6W 5 TA26
		R3J1	0RD3301F608	3.3K 1/6W 5 TA26
		R3J6	0RD2201F608	2.2K 1/6W 5 TA26
		R3J7	0RD0101F608	1.0 1/6W 5 TA26
		R3J8	0RD1002F608	10K 1/6W 5 TA26
		R3J9	0RD1002F608	10K 1/6W 5 TA26
		R3K1	0RD4701F608	4.7K 1/6W 5 TA26
		R3X1	0RD1002F608	10K 1/6W 5 TA26
		R3X2	0RD5600F608	560 1/6W 5 TA26
		R401	0RD1001F608	1.0K 1/6W 5 TA26
		R402	0RD1001F608	1.0K 1/6W 5 TA26
		R403	0RD1801F608	1.8K 1/6W 5 TA26
		R404	0RD1501F608	1.5K 1/6W 5 TA26
		R405	0RD1501F608	1.5K 1/6W 5 TA26
		R406	0RD1801F608	1.8K 1/6W 5 TA26
		R408	0RD1802F608	18K 1/6W 5 TA26
		R409	0RD8201F608	8.2K 1/6W 5 TA26
		R410	0RD1001F608	1.0K 1/6W 5 TA26
		R411	0RD1004F608	1.0M 1/6W 5 TA26
		R412	0RD8201F608	8.2K 1/6W 5 TA26
		R413	0RD1202F608	12K 1/6W 5 TA26
		R414	0RD3303F608	330K 1/6W 5 TA26
		R415	0RD1500F608	150 1/6W 5 TA26
		R416	0RD1000F608	100 1/6W 5 TA26
		R417	0RD0562F608	56 1/6W 5 TA26
		R418	0RD1802F608	18K 1/6W 5 TA26
		R419	0RD2701F608	2.7K 1/6W 5 TA26
		R420	0RD5601F608	5.6K 1/6W 5 TA26
		R421	0RD1003F608	100K 1/6W 5 TA26
		R422	0RD2702F608	27K 1/6W 5 TA26
		R423	0RD1002F608	10K 1/6W 5 TA26
		R424	0RD4702F608	47K 1/6W 5 TA26
		R425	0RD4702F608	47K 1/6W 5 TA26
		R426	0RD6801F608	6.8K 1/6W 5 TA26
		R427	0RD0472F608	47 1/6W 5 TA26
		R428	0RD2702F608	27K 1/6W 5 TA26
		R429	0RD0102F608	10 1/6W 5 TA26
		R430	0RD5601F608	5.6K 1/6W 5 TA26
		R431	0RD0472F608	47 1/6W 5 TA26
		R432	0RD2702F608	27K 1/6W 5 TA26
		R433	0RD0102F608	10 1/6W 5 TA26
		R434	0RD5601F608	5.6K 1/6W 5 TA26
		R435	0RD4700F608	470 1/6W 5 TA26
		R436	0RD0102F608	10 1/6W 5 TA26
		R437	0RD1003F608	100K 1/6W 5 TA26
		R438	0RD6802F608	68K 1/6W 5 TA26
		R450	0RD4700F608	470 1/6W 5 TA26
		R451	0RD2203F608	220K 1/6W 5 TA26
		R452	0RD1802F608	18K 1/6W 5 TA26
		R453	0RD5600F608	560 1/6W 5 TA26
		R4A0	0RD3302F608	33K 1/6W 5 TA26
		R4A1	0RD3302F608	33K 1/6W 5 TA26
		R4A2	0RD1802F608	18K 1/6W 5 TA26
		R4A3	0RD8200F608	820 1/6W 5 TA26
		R4A4	0RD4700F608	470 1/6W 5 TA26
		R4A5	0RD4700F608	470 1/6W 5 TA26
		R4A6	0RD1001F608	1.0K 1/6W 5 TA26
		R4A7	0RD1001F608	1.0K 1/6W 5 TA26
		R4A8	0RD6801F608	6.8K 1/6W 5 TA26
		R4A9	0RD1001F608	1.0K 1/6W 5 TA26
		R4B1	0RD1002F608	10K 1/6W 5 TA26
		R4B2	0RD1002F608	10K 1/6W 5 TA26
		R4B3	0RD5601F608	5.6K 1/6W 5 TA26
		R4B4	0RD5601F608	5.6K 1/6W 5 TA26
		R4B6	0RD2202F608	22K 1/6W 5 TA26
		R4B7	0RD1504F608	1.5M 1/6W 5 TA26
		R4K0	0RD4701F608	4.7K 1/6W 5 TA26
		R4K1	0RD4701F608	4.7K 1/6W 5 TA26
		R4K2	0RD6800F608	680 1/6W 5 TA26
		R4K3	0RD6800F608	680 1/6W 5 TA26
		R4K4	0RD3302F608	33K 1/6W 5 TA26
		R4K5	0RD2202F608	22K 1/6W 5 TA26
		R4K6	0RD1004F608	1.0M 1/6W 5 TA26
		R4K7	0RD4701F608	4.7K 1/6W 5 TA26
		R4K8	0RD4701F608	4.7K 1/6W 5 TA26
		R4K9	0RD4701F608	4.7K 1/6W 5 TA26
		R4L0	0RD4703F608	470K 1/6W 5 TA26
		R4L1	0RD4701F608	4.7K 1/6W 5 TA26
		R4L2	0RD1202F608	12K 1/6W 5 TA26
		R4L3	0RD3301F608	3.3K 1/6W 5 TA26
		R4L4	0RD2202F608	22K 1/6W 5 TA26
		R4L5	0RD1003F608	100K 1/6W 5 TA26
		R4L6	0RD2202F608	22K 1/6W 5 TA26
		R4L7	0RD4701F608	4.7K 1/6W 5 TA26
		R4L8	0RD2202F608	22K 1/6W 5 TA26
		R4L9	0RD2201F608	2.2K 1/6W 5 TA26
		R4M1	0RD8203F608	820K 1/6W 5 TA26
		R4M2	0RD6803F608	680K 1/6W 5 TA26
		R4P2	0RD1001F608	1.0K 1/6W 5 TA26
		R4P3	0RD0562F608	56 1/6W 5 TA26
		R4P4	0RD1001F608	1.0K 1/6W 5 TA26
		R501	0RD4701F608	4.7K 1/6W 5 TA26
		R502	0RD1002F608	10K 1/6W 5 TA26
		R503	0RD1002F608	10K 1/6W 5 TA26
		R504	0RD1003F608	100K 1/6W 5 TA26
		R505	0RD1003F608	100K 1/6W 5 TA26
		R506	0RD1003F608	100K 1/6W 5 TA26
		R507	0RD1003F608	100K 1/6W 5 TA26
		R508	0RD1003F608	100K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R509	0RD1003F608	100K 1/6W 5 TA26
		R510	0RD1003F608	100K 1/6W 5 TA26
		R511	0RD1003F608	100K 1/6W 5 TA26
		R512	0RD1003F608	100K 1/6W 5 TA26
		R513	0RD1003F608	100K 1/6W 5 TA26
		R514	0RD1003F608	100K 1/6W 5 TA26
		R515	0RD1003F608	100K 1/6W 5 TA26
		R516	0RD1003F608	100K 1/6W 5 TA26
		R517	0RD1003F608	100K 1/6W 5 TA26
		R518	0RD1003F608	100K 1/6W 5 TA26
		R520	0RD1800F608	180 1/6W 5 TA26
		R521	0RD1800F608	180 1/6W 5 TA26
		R522	0RD1800F608	180 1/6W 5 TA26
		R523	0RD4702F608	47K 1/6W 5 TA26
		R524	0RD4701F608	4.7K 1/6W 5 TA26
		R525	0RD4701F608	4.7K 1/6W 5 TA26
		R526	0RD4701F608	4.7K 1/6W 5 TA26
		R527	0RD4701F608	4.7K 1/6W 5 TA26
		R528	0RD1002F608	10K 1/6W 5 TA26
		R529	0RD4701F608	4.7K 1/6W 5 TA26
		R530	0RD4701F608	4.7K 1/6W 5 TA26
		R531	0RD1002F608	10K 1/6W 5 TA26
		R532	0RD1002F608	10K 1/6W 5 TA26
		R535	0RD1802F608	18K 1/6W 5 TA26
		R536	0RD1802F608	18K 1/6W 5 TA26
		R537	0RD8203F608	820K 1/6W 5 TA26
		R538	0RD8203F608	820K 1/6W 5 TA26
		R539	0RD1503F608	150K 1/6W 5 TA26
		R540	0RD1503F608	150K 1/6W 5 TA26
		R541	0RD4701F608	4.7K 1/6W 5 TA26
		R542	0RD1501F608	1.5K 1/6W 5 TA26
		R551	0RD4700F608	470 1/6W 5 TA26
		R552	0RD1002F608	10K 1/6W 5 TA26
		R553	0RD1002F608	10K 1/6W 5 TA26
		R554	0RD1002F608	10K 1/6W 5 TA26
		R555	0RD1002F608	10K 1/6W 5 TA26
		R556	0RD1002F608	10K 1/6W 5 TA26
		R557	0RD4701F608	4.7K 1/6W 5 TA26
		R558	0RD0221F608	2.2 1/6W 5 TA26
		R559	0RD0221F608	2.2 1/6W 5 TA26
		R560	0RD0221F608	2.2 1/6W 5 TA26
		R561	0RD1003F608	100K 1/6W 5 TA26
		R562	0RD5601F608	5.6K 1/6W 5 TA26
		R563	0RD6800F608	680 1/6W 5 TA26
		R564	0RD1004F608	1.0M 1/6W 5 TA26
		R565	0RD1204F608	1.2M 1/6W 5 TA26
		R566	0RD2202F608	22K 1/6W 5 TA26
		R567	0RD3301F608	3.3K 1/6W 5 TA26
		R568	0RD4701F608	4.7K 1/6W 5 TA26
		R569	0RD2201F608	2.2K 1/6W 5 TA26
		R570	0RD0101F608	1.0 1/6W 5 TA26
		R571	0RD0101F608	1.0 1/6W 5 TA26
		R572	0RD0101F608	1.0 1/6W 5 TA26
		R573	0RD0101F608	1.0 1/6W 5 TA26
		R574	0RD1002F608	10K 1/6W 5 TA26
		R575	0RD1002F608	10K 1/6W 5 TA26
		R576	0RD3300F608	330 1/6W 5 TA26
		R577	0RD1002F608	10K 1/6W 5 TA26
		R578	0RD2701F608	2.7K 1/6W 5 TA26
		R579	0RD1003F608	100K 1/6W 5 TA26
		R580	0RD1002F608	10K 1/6W 5 TA26
		R581	0RD1002F608	10K 1/6W 5 TA26
		R582	0RD1002F608	10K 1/6W 5 TA26
		R583	0RD1002F608	10K 1/6W 5 TA26
		R584	0RD1002F608	10K 1/6W 5 TA26
		R585	0RD4700F608	470 1/6W 5 TA26
		R586	0RD4701F608	4.7K 1/6W 5 TA26
		R587	0RD1002F608	10K 1/6W 5 TA26
		R588	0RD2702F608	27K 1/6W 5 TA26
		R589	0RD2702F608	27K 1/6W 5 TA26
		R590	0RD2702F608	27K 1/6W 5 TA26
		R5A1	0RD4702F608	47K 1/6W 5 TA26
		R5A2	0RD1503F608	150K 1/6W 5 TA26
		R5A3	0RD1503F608	150K 1/6W 5 TA26
		R5A4	0RD4702F608	47K 1/6W 5 TA26
		R5A6	0RD1002F608	10K 1/6W 5 TA26
		R601	0RD3300F608	330 1/6W 5 TA26
		R602	0RD3900F608	390 1/6W 5 TA26
		R603	0RD4700F608	470 1/6W 5 TA26
		R604	0RD6800F608	680 1/6W 5 TA26
		R605	0RD1001F608	1.0K 1/6W 5 TA26
		R606	0RD1501F608	1.5K 1/6W 5 TA26
		R607	0RD2201F608	2.2K 1/6W 5 TA26
		R609	0RD1200F608	120 1/6W 5 TA26
		R610	0RD1002F608	10K 1/6W 5 TA26
		R611	0RD0752F608	75 1/6W 5 TA26
		R612	0RD3302F608	33K 1/6W 5 TA26
		R613	0RD0101F608	1.0 1/6W 5 TA26
		R614	0RD0101F608	1.0 1/6W 5 TA26
		R615	0RD4701F608	4.7K 1/6W 5 TA26
		R616	0RD4701F608	4.7K 1/6W 5 TA26
		R617	0RD4701F608	4.7K 1/6W 5 TA26
		R621	0RD2200F608	220 1/6W 5 TA26
		R622	0RD5601F608	5.6K 1/6W 5 TA26
		R623	0RD3301F608	3.3K 1/6W 5 TA26
		R624	0RD2201F608	2.2K 1/6W 5 TA26
		R625	0RD1501F608	1.5K 1/6W 5 TA26
		R626	0RD1001F608	1.0K 1/6W 5 TA26
		R627	0RD6800F608	680 1/6W 5 TA26
		R628	0RD4700F608	470 1/6W 5 TA26
		R629	0RD3900F608	390 1/6W 5 TA26
		R630	0RD3300F608	330 1/6W 5 TA26
		R631	0RD2203F608	220K 1/6W 5 TA26
		R633	0RD1001F608	1.0K 1/6W 5 TA26
		R634	0RD6802F608	68K 1/6W 5 TA26
		R635	0RD2203F608	220K 1/6W 5 TA26
		R636	0RD2203F608	220K 1/6W 5 TA26
		R637	0RD0471F608	4.7 1/6W 5 TA26
		R651	0RD1002F608	10K 1/6W 5 TA26
		R671	0RD1201F608	1.2K 1/6W 5 TA26
		R701	0RD1000F608	100 1/6W 5 TA26
		R702	0RD6801F608	6.8K 1/6W 5 TA26
		R703	0RD1201F608	1.2K 1/6W 5 TA26
		R704	0RD3900F608	390 1/6W 5 TA26
		R705	0RD0682F608	68 1/6W 5 TA26
		R706	0RD2200F608	220 1/6W 5 TA26
		R707	0RD3300F608	330 1/6W 5 TA26
		R708	0RD1201F608	1.2K 1/6W 5 TA26
		R715	0RD2201F608	2.2K 1/6W 5 TA26
		R716	0RD3900F608	390 1/6W 5 TA26
		R717	0RD2201F608	2.2K 1/6W 5 TA26
		R718	0RD1001F608	1.0K 1/6W 5 TA26
		R720	0RD1001F608	1.0K 1/6W 5 TA26
		R721	0RD1002F608	10K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R722	0RD1802F608	18K 1/6W 5 TA26
		R724	0RD3300F608	330 1/6W 5 TA26
		R725	0RD5600F608	560 1/6W 5 TA26
		R726	0RD1002F608	10K 1/6W 5 TA26
		R727	0RD5601F608	5.6K 1/6W 5 TA26
		R728	0RD1201F608	1.2K 1/6W 5 TA26
		R729	0RD6800F608	680 1/6W 5 TA26
		R801	0RD5601F608	5.6K 1/6W 5 TA26
		R802	0RD1002F608	10K 1/6W 5 TA26
		R803	0RD1002F608	10K 1/6W 5 TA26
		R804	0RD4701F608	4.7K 1/6W 5 TA26
		R805	0RD4702F608	47K 1/6W 5 TA26
		R806	0RD2202F608	22K 1/6W 5 TA26
		R807	0RD1201F608	1.2K 1/6W 5 TA26
		R808	0RD1201F608	1.2K 1/6W 5 TA26
		R809	0RD1201F608	1.2K 1/6W 5 TA26
		R810	0RD3900F608	390 1/6W 5 TA26
		R811	0RD0682F608	68 1/6W 5 TA26
		R812	0RD0752F608	75 1/6W 5 TA26
		R813	0RD1001F608	1.0K 1/6W 5 TA26
		R814	0RD1001F608	1.0K 1/6W 5 TA26
		R815	0RD0752F608	75 1/6W 5 TA26
		R816	0RD1001F608	1.0K 1/6W 5 TA26
		R817	0RD1001F608	1.0K 1/6W 5 TA26
		R818	0RD1003F608	100K 1/6W 5 TA26
		R819	0RD6802F608	68K 1/6W 5 TA26
		R820	0RD3301F608	3.3K 1/6W 5 TA26
		R821	0RD1001F608	1.0K 1/6W 5 TA26
		R822	0RD1003F608	100K 1/6W 5 TA26
		R823	0RD6802F608	68K 1/6W 5 TA26
		R824	0RD3301F608	3.3K 1/6W 5 TA26
		R825	0RD1001F608	1.0K 1/6W 5 TA26
		R826	0RD1001F608	1.0K 1/6W 5 TA26
		R827	0RD3301F608	3.3K 1/6W 5 TA26
		R828	0RD1003F608	100K 1/6W 5 TA26
		R829	0RD6802F608	68K 1/6W 5 TA26
		R830	0RD1001F608	1.0K 1/6W 5 TA26
		R831	0RD3301F608	3.3K 1/6W 5 TA26
		R832	0RD1003F608	100K 1/6W 5 TA26
		R833	0RD6802F608	68K 1/6W 5 TA26
		R834	0RD0682F608	68 1/6W 5 TA26
		R838	0RD3302F608	33K 1/6W 5 TA26
		R839	0RD1002F608	10K 1/6W 5 TA26
		R840	0RD4701F608	4.7K 1/6W 5 TA26
		R841	0RD4701F608	4.7K 1/6W 5 TA26
		R842	0RD3900F608	390 1/6W 5 TA26
		R843	0RD2201F608	2.2K 1/6W 5 TA26
		R844	0RD1002F608	10K 1/6W 5 TA26
		R845	0RD6803F608	680K 1/6W 5 TA26
		R846	0RD3300F608	330 1/6W 5 TA26
		R847	0RD6802F608	68K 1/6W 5 TA26
		R848	0RD3901F608	3.9K 1/6W 5 TA26
		R849	0RD4701F608	4.7K 1/6W 5 TA26
		R850	0RD4700F608	470 1/6W 5 TA26
		R851	0RD1001F608	1.0K 1/6W 5 TA26
		R852	0RD3300F608	330 1/6W 5 TA26
		R853	0RD3300F608	330 1/6W 5 TA26
		R854	0RD3900F608	390 1/6W 5 TA26
		R855	0RD1203F608	120K 1/6W 5 TA26
		R871	0RD0221F608	2.2 1/6W 5 TA26
		R872	0RD0221F608	2.2 1/6W 5 TA26
		R873	0RD1003F608	100K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R8A0	0RD3901F608	3.9K 1/6W 5 TA26
		R8A1	0RD4701F608	4.7K 1/6W 5 TA26
		R8A2	0RD4701F608	4.7K 1/6W 5 TA26
		R8A3	0RD4701F608	4.7K 1/6W 5 TA26
		R8A4	0RD0752F608	75 1/6W 5 TA26
		R8A5	0RD1002F608	10K 1/6W 5 TA26
		R8A6	0RD2203F608	220K 1/6W 5 TA26
		R8A7	0RD3900F608	390 1/6W 5 TA26
		R8A8	0RD4703F608	470K 1/6W 5 TA26
		R8A9	0RD2702F608	27K 1/6W 5 TA26
		R8B0	0RD1001F608	1.0K 1/6W 5 TA26
		R8B1	0RD3301F608	3.3K 1/6W 5 TA26
		R8B2	0RD1801F608	1.8K 1/6W 5 TA26
		R8B3	0RD0752F608	75 1/6W 5 TA26
		R8B4	0RD4701F608	4.7K 1/6W 5 TA26
		R8B5	0RD1001F608	1.0K 1/6W 5 TA26
		R8B6	0RD4701F608	4.7K 1/6W 5 TA26
		R8B7	0RD1802F608	18K 1/6W 5 TA26
		R8B8	0RD1202F608	12K 1/6W 5 TA26
		R8B9	0RD1001F608	1.0K 1/6W 5 TA26
		R8C1	0RD1001F608	1.0K 1/6W 5 TA26
		R8C5	0RD0822F608	82 1/6W 5 TA26
		R8C6	0RD1001F608	1.0K 1/6W 5 TA26
		R901	0RD0752F608	75 1/6W 5 TA26
		R902	0RD0562F608	56 1/6W 5 TA26
		R903	0RD0752F608	75 1/6W 5 TA26
		R904	0RD0752F608	75 1/6W 5 TA26
		R905	0RD1502F608	15K 1/6W 5 TA26
		R906	0RD1002F608	10K 1/6W 5 TA26
		R907	0RD5601F608	5.6K 1/6W 5 TA26
		R908	0RD4703F608	470K 1/6W 5 TA26
		R909	0RD3903F608	390K 1/6W 5 TA26
		R910	0RD1001F608	1.0K 1/6W 5 TA26
		R911	0RD2201F608	2.2K 1/6W 5 TA26
		R912	0RD2201F608	2.2K 1/6W 5 TA26
		R913	0RD3900F608	390 1/6W 5 TA26
		R914	0RD3900F608	390 1/6W 5 TA26
		R915	0RD1201F608	1.2K 1/6W 5 TA26
		R916	0RD5601F608	5.6K 1/6W 5 TA26
		R917	0RD1201F608	1.2K 1/6W 5 TA26
		R918	0RD1001F608	1.0K 1/6W 5 TA26
		R919	0RD1001F608	1.0K 1/6W 5 TA26
		R920	0RD1800F608	180 1/6W 5 TA26
		R922	0RD1201F608	1.2K 1/6W 5 TA26
		W287	0RD5601F608	5.6K 1/6W 5 TA26
		W652	0RD1001F608	1.0K 1/6W 5 TA26

REMOCON RECEIVER

		R/C601	668-226B	R/C RECEIVER(KTC.H=11.5) 33G

SCART

		JK801	573-006C	RGB SOKET SR-21S3 21PIN (BK)
		JK802	573-006D	RGB (BLUE)

SWITCH

		SW601	556-219A	SKHV10910A (GS ALPS)
		SW602	556-219A	SKHV10910A (GS ALPS)
		SW603	556-219A	SKHV10910A (GS ALPS)
		SW604	556-219A	SKHV10910A (GS ALPS)
		SW605	556-219A	SKHV10910A (GS ALPS)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		SW606	556-219A	SKHV10910A (GS ALPS)
		SW607	556-219A	SKHV10910A (GS ALPS)
		SW608	556-219A	SKHV10910A (GS ALPS)
		SW621	556-219A	SKHV10910A (GS ALPS)
		SW622	556-219A	SKHV10910A (GS ALPS)
		SW623	556-219A	SKHV10910A (GS ALPS)
		SW624	556-219A	SKHV10910A (GS ALPS)
		SW625	556-219A	SKHV10910A (GS ALPS)
		SW626	556-219A	SKHV10910A (GS ALPS)
		SW627	556-219A	SKHV10910A (GS ALPS)
		SW628	556-219A	SKHV10910A (GS ALPS)
		SW629	556-219A	SKHV10910A (GS ALPS)
		SW630	556-219A	SKHV10910A (GS ALPS)

TUNER

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
*		TU701	521-402A	ENV-57862G3 FS/PLL HYPER MATS

VARIABLE RESISTOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		VR201	613-032U	RH0638C15R0WA (100K)
		VR301	613-032N	RH0638C14R14A (10K)
		VR302	613-032G	RH0638C13R0VA (1K)
		VR303	613-032N	RH0638C14R14A (10K)
		VR304	613-032L	RH0638CS3R0WA (4.7K)
		VR305	613-032Q	RH0638CJ4R0WA (22K)
		VR3A1	613-032U	RH0638C15R0WA (100K)
		VR401	613-032W	RH0638CJ5R (220K)
		VR4A1	613-032N	RH0638C14R14A (10K)
		VR4A2	613-032N	RH0638C14R14A (10K)
		VR501	613-032N	RH0638C14R14A (10K)
		VR701	613-032Q	RH0638CJ4R0WA (22K)

CRYSTAL

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		X202	529-001D	32.768KHZ(2X6) SEIKO
		X301	529-020P	4.433619MHZ 15PPM GRAY L=4.0
	OR	X301	529-027P	4.433619MHZ 15PPM KSS
		X3A1	529-022F	4.433619M 30PPM CL=16P DL=1M
		X4K1	529-022E	11.71875 30PPM CL=10P DL=1M
		X501	529-020R	12.000000MHZ 30PPM NO-TU L=4.0
		X801	529-019A	CSB500F-9 MURATA
		X8A1	529-022H	17.734476MHZ CL=16P 20PPM 4.0

RESONATOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		X201	618-017A	FCR6.0MCT2 TDK-J(TAPING)

ZENER DIODE

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		ZD101	0DZ330009AF	MTZ33B,TP,ROHM-K
		ZD102	0DZ270009CA	MTZ27C TP ROHM-KOREA
		ZD103	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD201	0DZ820009AA	MTZ8.2B TP ROHM-K
		ZD301	0DZ100009AA	MTZ10B MINI TP ROHM-K
		ZD401	0DZ100009AA	MTZ10B MINI TP ROHM-K
		ZD501	0DZ620009AA	MTZ6.2B (TA)
		ZD601	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD602	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD603	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD605	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD606	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD607	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD608	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD801	0DZ130009AC	MTZ13B TP ROHM-K
		ZD802	0DZ130009AC	MTZ13B TP ROHM-K
		ZD803	0DZ130009AC	MTZ13B TP ROHM-K
		ZD804	0DZ130009AC	MTZ13B TP ROHM-K